



Air Pollution Control Board
Greg Cox District 1
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Air Pollution Control District
R. J. Sommerville Director

NOTICE OF WORKSHOP

FOR DISCUSSION OF PROPOSED ADOPTION OF NEW RULE 67.21 - ADHESIVE MATERIAL APPLICATION OPERATIONS

The San Diego County Air Pollution Control District will hold a public meeting to consider the adoption of new Rule 67.21 - Adhesive Material Application Operations. Comments concerning this proposal may be submitted in writing before, or made at, the workshop which is scheduled as follows:

DATE: April 29, 1998
TIME: 9 am - 12 noon
PLACE: Conference Room 139
 San Diego Air Pollution Control District
 9150 Chesapeake Drive
 San Diego, CA

Rule 67.21 is a new rule designed to reduce solvent emissions from adhesive material application operations. Solvents contain volatile organic compounds (VOCs) which react in the atmosphere to form ozone. San Diego County violates National and State Ambient Air Quality Standards for ozone and is required by federal and state laws to adopt rules regulating VOC emissions.

Rule 67.21 implements best available retrofit control technology (BARCT) requirements of the California Health and Safety Code. It is consistent with the proposed BARCT Determination for Adhesives and Sealants that is being developed by the Air Resources Board (ARB) in cooperation with the Adhesive Committee of the California Air Pollution Control Officers Association (CAPCOA).

Rule 67.21 will affect industrial facilities that use adhesive materials (i.e. adhesives, sealants, adhesive or sealant primers) and cleaning processes and materials associated with these activities. The rule will also apply to any person supplying, selling or offering for sale plastic welding products and adhesive materials generally used in architectural construction or repair.

Specifically, proposed Rule 67.21 will:

- Specify VOC content limits for a large variety of adhesive materials. All adhesive materials subject to the proposed standards are separated into four broad categories: general adhesive materials, specialty adhesive materials, substrate-specific adhesive materials, and others. Each large category includes several subcategories of adhesive materials that are based on application purposes, types of material being bonded, or other common characteristics, together with the VOC content limit for each subcategory.
- Specify the VOC weight percent content for aerosol adhesives.

- Require the use of materials with a low VOC content, high boiling point or low vapor pressure for surface preparation, stripping and clean-up operations associated with the application of adhesive materials and cleaning adhesive application equipment.
- Provide other options for cleaning adhesive application equipment.
- Prohibit soliciting or specifying the application of adhesive materials not complying with the rule standards.
- Prohibit the sale of general application and solvent welding adhesive materials exceeding allowable VOC content limits. This prohibition applies only to products sold for use within San Diego County.
- Specify requirements and a compliance schedule if an owner or operator chooses to use air pollution control equipment to comply with the proposed rule standards.
- Require facilities to keep a current list of all adhesive and cleaning materials used and specify additional information to be included in this list.
- Require facilities to keep daily or monthly records of the amount of each adhesive, surface preparation, stripping and cleaning material used.
- Specify test methods for determining compliance.

The proposed rule exempts adhesive material operations used in tire repair operations, assembly and manufacture of undersea weapon systems, and testing and evaluating in quality assurance or analytical laboratories. Self-curing adhesive materials, adhesive materials containing less than 20 grams of VOC per liter, and certain adhesive materials and aerosol adhesives not subject to the prohibition of sale and sold in packages containing 16 fluid ounces or less are also exempt from the proposed rule standards.

Small operators using less than 55 gallons of adhesive materials in each consecutive 12-month period are exempt from all rule requirements. In addition, the proposed rule allows the use of adhesive materials exceeding the VOC content limits in volumes less than 55 gallons in each 12-month consecutive month period provided their total usage at a stationary source does not exceed 55 gallons in the same 12-month period. These exemptions do not apply to adhesive materials prohibited for sale.

If you would like a copy of proposed Rule 67.21, please call Juanita Ogata at (619) 694-8851. If you have any questions concerning the proposal, please call Laura Yannayon at (619) 694-3326, Natalie Zlotin at (619) 694-3312 or me at (619) 694-3303.



Richard J. Smith
Deputy Director

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3/17/98

**AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO**

PROPOSED NEW RULE 67.21

Proposed new Rule 67.21 to read as follows:

RULE 67.21 ADHESIVE MATERIAL APPLICATION OPERATIONS

(Adopted xx/xx/xx: Effective: *6 months after adoption*)

(a) APPLICABILITY

(1) Except as otherwise provided in Section (b), this rule is applicable to all adhesive material application operations. Adhesive material application operations include all steps involved in the application, drying, and/or curing of adhesive materials, and associated surface preparation, stripping and cleanup materials, and the cleaning of application equipment.

(2) Subsections (d)(5) and (d)(6) and Section (g) of this rule, apply to any person who supplies, sells, offers for sale or specifies the application of adhesive materials.

(3) Rule 66 shall not apply to any adhesive material application operation.

(4) Any adhesive material application operation subject to the requirements of Rules 67.4, 67.5, 67.9, or 67.16 shall not be subject to this rule.

(5) The provisions of Subsection (d)(3) of this rule shall not apply to surface preparation, stripping or cleaning operations conducted in equipment subject to Rule 67.6.

(b) EXEMPTIONS

(1) Adhesive Materials

The provisions of Sections (d), (e), and (f) shall not apply to the following:

(i) Except for adhesive materials listed in Subsection (d)(1)(i)(B), adhesive materials and aerosol adhesives sold, supplied and used in single or multi-unit packages having an aggregate net weight of one pound or less, or containing an aggregate of 16 fluid ounces or less.

(ii) Self-curing adhesive materials containing reactive diluents.

(iii) Adhesive materials that contain less than 20 grams of VOC per liter of adhesive material, as applied, less water and less exempt compounds.

(iv) Low-solids adhesive materials that contain less than 20 grams of VOC per liter of adhesive material, as applied.

It is the responsibility of any person claiming an exemption pursuant to Subsections (b)(1)(ii) through (b)(1)(iv) to maintain current manufacturers' specifications which substantiate this claim. These records shall be kept onsite for at least three years and be made available to the District upon request.

(2) Specified Adhesive Material Application Operations

The provisions of this rule shall not apply to the following adhesive material application operations:

- (i) Tire repair operations, provided a label on the adhesive being used states "For Tire Repair Only".
- (ii) Assembly and manufacture of undersea-based weapon systems.
- (iii) Testing or evaluating of adhesive materials in any quality assurance or analytical laboratory.
- (iv) Plastic welding products used to manufacture medical devices.

(3) Small Usage of Adhesive Materials

The provisions of this rule, except for the requirements of Subsection (d)(1)(i), shall not apply to any stationary source which uses less than 55 gallons of all adhesive materials specified in Subsections (d)(1)(ii) through (d)(1)(iv) and (d)(2) in each consecutive 12-month period. Any person claiming this exemption shall maintain monthly purchase and monthly or daily usage records of adhesive materials. These records shall be maintained onsite for at least three years and be made available to the District upon request.

(4) Non-Compliant Adhesive Material Usage

The provisions of Subsections (d)(1)(ii) through (d)(1)(iv) and (d)(2) shall not apply to adhesive materials used in volumes less than 55 gallons in each consecutive 12-month period provided that a total less than 55 gallons in the same 12-month period of all such non-compliant adhesive materials are used at the stationary source.

(c) **DEFINITIONS**

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

(1) **"ABS (Acrylonitrile-Butadiene-Styrene) Welding Adhesive"** means an adhesive material specified by the manufacturer to weld ABS plastic pipe.

(2) **"Adhesive"** means a substance that is used to bond one surface to another surface by attachment.

(3) **"Adhesive Material"** means an adhesive, sealant, adhesive primer or sealant primer.

(4) **"Adhesive Primer"** means any product specified by the manufacturer to be applied to a substrate, prior to the application of an adhesive, to enhance the bonding surface.

(5) **"Aerosol Adhesive"** means an adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for hand-held application without the need for ancillary hoses or spray equipment.

(6) **"Architectural Sealant"** means a sealant specified by the manufacturer to be applied to stationary structures, including mobile homes, and their appurtenances. Appurtenances to an architectural structure include, but are not limited to: hand railings,

cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

(7) **"Architectural Sealant Primer"** means a sealant primer specified by the manufacturer to be applied to stationary structures, including mobile homes, and their appurtenances, prior to the application of a sealant, to enhance the bonding surface. Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

(8) **"Automotive Glass Adhesive Primer"** means an adhesive primer specified by the manufacturer to be applied to automotive glass to improve adhesion to the pinch weld and block ultraviolet light, prior to application of an adhesive.

(9) **"Ceramic Tile Installation Adhesive"** is an adhesive specified by the manufacturer to be used for the installation of ceramic tiles.

(10) **"Computer Diskette Jacket Manufacturing Adhesive"** means an adhesive specified by the manufacturer to glue the fold-over flaps to the body of a vinyl computer diskette jacket.

(11) **"Contact Adhesive - General"** means an adhesive specified by the manufacturer to form an instantaneous bond that cannot be repositioned once the substrates, on which the adhesive has been applied and allowed to dry, are brought together using momentary pressure.

(12) **"Contact Adhesive - Special"** means a contact adhesive specified by the manufacturer to be used for the bonding of non-porous substrates to each other, the bonding of decorative laminate surfaces, or the bonding of any substrate to metal, rubber, flexible vinyl, rigid plastic, melamine-covered board, or wood veneer.

(13) **"Cove Base Installation Adhesive"** is an adhesive specified by the manufacturer for the installation of cove base (or wall base), which is generally made of vinyl or rubber, on a wall or vertical surface at floor level.

(14) **"CPVC (Chlorinated Polyvinyl Chloride) Welding Adhesive"** means an adhesive specified by the manufacturer for the welding of CPVC plastic pipe.

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

(16) **"Indoor Floor Covering Installation/Repair Adhesive"** means an adhesive specified by the manufacturer for the installation or repair of indoor floor coverings including, but not limited to, wood flooring, carpet, resilient tile, vinyl backed carpet, linoleum or artificial grass. This definition does not apply to ceramic tile installation adhesives or perimeter bonding adhesives.

(17) **"Low-Solids Adhesive Material"** means any adhesive material that contains 120 grams or less of solids per liter of material.

(18) **"Marine Deck Sealant/Primer"** means a sealant or sealant primer specified by the manufacturer to be applied to wooden marine decks.

(19) **"Metal To Elastomer Molding Or Casting Adhesive"** means an adhesive specified by the manufacturer to bond metal to rubber or urethane elastomers through a heated molding or casting process in order to fabricate products such as rollers and wheels.

(20) **"Modified Bitumen Membrane Primer"** means a primer which contains modified bituminous materials and a solvent with a flash point greater than 170°F, which is specified by the manufacturer to prepare a membrane surface by (1) improving the adhesion of subsequent adhesives, and (2) absorbing dust and other contaminants.

(21) **"Modified Bituminous Material"** means a black or brownish material, soluble in carbon disulfide, consisting mainly of hydrocarbons and which is obtained from natural deposits of asphalt or residues from the distillation of crude petroleum oils or low grades of coal.

(22) **"Multipurpose Construction Installation/Repair Adhesive"** means an adhesive specified by the manufacturer for the installation or repair of various construction materials, including but not limited to drywall, subfloor, panel, ceiling tile, and acoustical tile.

(23) **"Non-membrane Roof Installation/Repair Adhesive/Sealant"** means an adhesive or sealant specified by the manufacturer for the installation or repair of non-membrane roofs and which is not specified for the installation of prefabricated single-ply flexible roofing membrane. This definition includes plastic or asphalt roof cement and cold application cement.

(24) **"Outdoor Floor Covering Installation/Repair Adhesive"** means an adhesive specified by the manufacturer for the installation or repair of floor covering that is not in an enclosure and is exposed to ambient weather conditions during normal use.

(25) **"Perimeter Bonding Adhesive"** means an adhesive specified by the manufacturer to be used for application to the perimeter of vinyl backed sheet flooring installed onto non-porous substrates such as flexible vinyl.

(26) **"Plastic Cement Welding Adhesive"** means an adhesive made of resins and solvents that is formulated to dissolve the surfaces of plastic to form a bond between mating surfaces.

(27) **"Plastic Cement Welding Adhesive Primer"** means an adhesive primer specified by the manufacturer to prepare plastic substrates prior to the application of an adhesive for bonding or welding.

(28) **"Porous Material"** means a substance that has small, often microscopic, pores in which fluids may be absorbed or discharged. Such materials include, but are not limited to, wood, paper and corrugated paperboard.

(29) **"PVC (Polyvinyl Chloride) Welding Adhesive"** means an adhesive specified by the manufacturer for the welding of PVC plastic pipe.

(30) **"Reactive Diluent"** means a liquid reactant that is part of an uncured adhesive material and that reacts during the curing process to become part of the solid adhesive material.

(31) **"Roadway Sealant"** means a sealant specified by the manufacturer to be applied to public streets, highways and other surfaces, including, but not limited to, curbs, berms, driveways, and parking lots.

(32) **"Rubber"** means a natural or manmade elastomer, including, but not limited to, styrene-butadiene rubber (SBR), polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene (CSM), and ethylene-propylene diene terpolymer (EPDM).

(33) **"Sealant"** means a material that is formulated primarily to fill, seal, water-proof, or weatherproof gaps or joints between two surfaces. Sealants include caulk materials. Sealants do not include sealers.

(34) **"Sealant Primer"** means any product specified by the manufacturer to be applied to a substrate, prior to the application of a sealant, to enhance the bonding surface.

(35) **"Self-Curing Adhesive Material with Reactive Diluents"** means a cyanoacrylate or silicone-based adhesive material with a reactive diluent content of at least 95% by weight.

(36) **"Sheet Rubber Lining Installation Adhesive"** means an adhesive specified by the manufacturer to be used for sheet rubber lining applied to the interior of stationary tanks or railroad tanks used for storage or transportation of corrosive liquids.

(37) **"Single-Ply Roof Membrane"** means single-thickness sheets of rubber, usually EPDM (ethylene-propylene diene terpolymer), that are applied in a single layer to a building roof.

(38) **"Single-Ply Roof Membrane Installation/Repair Adhesive/Primer"** means an adhesive or adhesive primer specified by the manufacturer to be used for the installation or repair of single-ply roof membrane.

(39) **"Single-Ply Roof Membrane Sealant"** means a sealant specified by the manufacturer to be applied to single-ply roof membrane.

(40) **"Structural Glazing Adhesive"** means an adhesive specified by the manufacturer to attach glass, ceramic, metal, stone or composite panels to exterior building frames.

(41) **"Thin Metal Laminating Adhesive"** means an adhesive specified by the manufacturer to bond 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 mils.

(42) **"Tire Retread Adhesive"** means an adhesive specified by the manufacturer to be applied to the back of pre-cured tread rubber and to the casing and cushion rubber in the assembly of retread tires. It may also be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.

(43) **"Traffic Marking Tape Adhesive Primer"** means a pre-formed reflective film specified by the manufacturer to be applied to public streets, highways, and other surfaces, including but not limited to curbs, berms, driveways, and parking lots.

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

(45) **"VOC Content Per Volume of Adhesive Material, Less Water and Exempt Compounds"** means the weight of VOC per combined volume of VOC and adhesive material solids and is calculated by the following equation:

$$C_{\text{Cvoc}} = (W_s - W_w - W_{\text{es}}) / (V_m - V_w - V_{\text{es}})$$

where:

$$C_{\text{Cvoc}} = \text{VOC content per volume of adhesive material, less water and exempt compounds}$$

W_s	=	weight of volatile compounds including water and exempt compounds
W_w	=	weight of water
W_{es}	=	weight of exempt compounds
V_m	=	volume of material including water and exempt compounds
V_w	=	volume of water
V_{es}	=	volume of exempt compounds

(46) **"VOC Content Per Volume of Material"** means the weight of VOC per volume of material and is calculated by the following equation:

$$C_{m\text{voc}} = (W_s - W_w - W_{es}) / (V_m)$$

where:

$C_{m\text{voc}}$	=	VOC content per volume of material
W_s	=	weight of volatile compounds including water and exempt compounds
W_w	=	weight of water
W_{es}	=	weight of exempt compounds
V_m	=	volume of material including water and exempt compounds

(47) **"Waterproof Resorcinol Glue"** means a two-part, resorcinol-resin-based adhesive specified by the manufacturer for applications where the bond line must be resistant to continuous immersion in fresh or salt water.

(d) STANDARDS

The VOC content of low-solids adhesive materials shall be calculated per volume of adhesive material, as applied. The VOC content of all other adhesive materials, except for aerosol adhesives, shall be calculated per volume of adhesive material, as applied, less water and exempt compounds.

(1) A person shall not apply any adhesive material specified below with a VOC content in excess of the following limits:

(i) GENERAL ADHESIVE MATERIALS

(A) Architectural Products	<u>VOC LIMITS</u> <u>(grams/liter)</u>
Architectural sealant	250
Architectural sealant primer for:	
-Non-porous materials	250
-Porous materials	775
Ceramic tile installation adhesive	130
Cove base installation adhesive	150
Indoor floor covering installation/repair adhesive	150
Modified bitumen membrane primer	500
Multipurpose construction installation/repair adhesive	200
Non-membrane roof installation/repair adhesive/sealant	300

Architectural Products - continued

VOC LIMITS
(grams/liter)

Outdoor floor covering installation/repair adhesive	250
Perimeter bonding adhesive	660
Single-ply roof membrane installation/repair adhesive/ primer	250
Single-ply roof membrane sealant	450
Structural glazing adhesive	100

(B) Plastic Welding Products

ABS welding adhesive	400
CPVC welding adhesive	490
PVC welding adhesive	510
Plastic cement welding adhesive primer	650
Other plastic cement welding adhesives	510

(ii) SPECIALTY ADHESIVE MATERIALS

VOC LIMITS
(grams/liter)

Automotive glass adhesive primer	700
Computer diskette jacket manufacturing adhesive	850
Contact adhesive	
-General	540
-Special	540
-General - Effective (3 years after date of adoption)	250
-Special - Effective (3 years after date of adoption)	400
Marine deck sealant/primer	760
Metal to elastomer molding or casting adhesive	850
Roadway sealant	250
Sheet rubber lining installation adhesive	850
Thin metal laminating adhesive	780
Tire retread adhesive	100
Traffic marking tape adhesive primer	150
Waterproof resorcinol glue	170

If more than one VOC limit provided in Subsections (d)(1)(i) or (d)(1)(ii) is applicable, the most stringent VOC limit shall apply.

(iii) SUBSTRATE-SPECIFIC ADHESIVES

If an adhesive is not listed in Subsection (d)(1)(i) or (d)(1)(ii), the following VOC limits are applicable on a substrate-specific basis.

Adhesives applied onto:

VOC LIMITS
(grams/liter)

Fiberglass	200
Metal	30
Porous material	120

If an adhesive is used to bond together two or more substrates listed above, the highest applicable substrate-specific VOC limit shall apply.

(iv) ALL OTHER ADHESIVE MATERIALS

If an adhesive material or specific substrate is not listed in Subsections (d)(1)(i) through (d)(1)(iii) above, the following VOC limits are applicable.

	<u>VOC LIMITS</u> <u>(grams/liter)</u>
Adhesives	250
Adhesive primers	250
Sealants	420
Sealant primers	750

(2) Aerosol Adhesives

A person shall not use any aerosol adhesive with a VOC content greater than 75 percent by weight, including the propellant.

(3) Surface Preparation, Stripping and Cleanup Materials

A person shall not use VOC containing materials for surface preparation, stripping or cleanup unless:

- (i) The material contains 70 grams or less of VOC per liter of material; or
- (ii) The material has an initial boiling point of 190°C (374°F) or greater; or
- (iii) The material has a total VOC vapor pressure of 45 mm Hg or less, at 20°C (68°F).

(4) Cleaning of Application Equipment

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

- (i) The material contains 70 grams or less of VOC per liter of material; or
- (ii) The material has an initial boiling point of 190°C (374 °F) or greater; or
- (iii) The material has a total VOC vapor pressure of 45 mm Hg or less, at 20°C (68 °F); or
- (iv) The cleaning material is flushed or rinsed through the application equipment in a contained manner that will minimize evaporation into the atmosphere; or
- (v) The application equipment or equipment parts are cleaned in a container which is open only when being accessed for adding, cleaning, or removing application equipment or when cleaning material is being added, provided the cleaned equipment or equipment parts are drained to the container until dripping ceases; or
- (vi) A system is used that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes; or
- (vii) Other application equipment cleaning methods are used that are demonstrated to be as effective as any of the equipment described above in minimizing the

VOC emissions to the atmosphere, provided that the method has been tested and approved in writing by the Air Pollution Control Officer prior to use.

(5) Prohibition of Specification

A person shall not specify the application of an adhesive material subject to this rule for any operation in San Diego County if such application results in a violation of any provision of this rule. This prohibition is applicable to any written or oral contract under the terms of which any adhesive material is applied to any component within San Diego County.

(6) Prohibition of Sale

A person shall not supply, sell or offer for sale any adhesive material listed under Subsection (d)(1)(i) which, at the time of sale, exceeds the VOC limits listed. This provision only applies to products that are supplied to or sold to persons for application within San Diego County.

(e) CONTROL EQUIPMENT

(1) In lieu of complying with the provisions of Subsections (d)(1), (d)(2), (d)(3) or (d)(4) of this rule, a person may use an air pollution control system which:

(i) Has been installed in accordance with an Authority to Construct, and

(ii) Includes an emission collection system which captures organic gaseous emissions, including emissions associated with applicable adhesive material application, equipment cleaning, and surface preparation operations, and transports the captured emissions to an air pollution control device; and

(iii) Has a combined emissions capture and control device efficiency of at least 85 percent by weight.

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

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1)(iii) such as temperature, pressure, and/or flow rate; and

(ii) Include proposed inspection schedules, anticipated ongoing maintenance and proposed recordkeeping practices regarding the key system operating parameters.

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

(f) RECORDKEEPING

All records required by this rule shall be retained onsite for at least three years and shall be made available to the District upon request.

(1) Any person subject to the provisions of Subsections (d)(1)(ii) through (d)(1)(iv), (d)(2), (d)(3) and (d)(4) of this rule shall maintain the following records:

(i) Maintain a current list of each adhesive material, stripping, surface preparation and cleaning material used which provides all of the data necessary to evaluate compliance, including but not limited to:

(A) the category of adhesive material as specified in Subsection (d)(1);

(B) manufacturer name and identification for each adhesive material or its components, stripping, surface preparation and cleaning material;

(C) mix ratio of components; and

(D) VOC content, vapor pressure and/or initial boiling point, as applicable, for each adhesive material, stripping, surface preparation and cleaning material.

(ii) Maintain daily or monthly records of the amount of each adhesive material, and stripping, surface preparation and cleaning material used.

(2) Any person using control equipment pursuant to Section (e) of this rule shall:

(i) Maintain records in accordance with Subsection (f)(1); and

(ii) Maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan. Such records shall be sufficient to document continuous compliance with Subsection (e)(1)(iii) during periods of emission producing activities.

(g) TEST METHODS

(1) Measurement of the VOC content of all non-aerosol adhesive materials, surface preparation and cleaning materials subject to Subsections (d)(1), (d)(3) and/or (d)(4) of this rule, shall be conducted in accordance with EPA Test Method 24 (40 CFR Part 60, Appendix A).

(2) Measurement of the VOC content of aerosol adhesives subject to Subsection (d)(2) shall be determined using ARB Method 310, as it exists on (*date of adoption*).

(3) Measurement of the VOC content of any plastic welding cement adhesive material subject to Subsection (d)(1)(i)(B) shall be determined using South Coast Air Quality Management District's Method 316A, as it exists on (*date of adoption*).

(4) Calculation of total VOC vapor pressure for materials subject to Subsections (d)(3)(iii) and/or (d)(4)(iii) of this rule shall be conducted in accordance with the District's "Procedures for Estimating the Vapor Pressure of VOC Mixtures". If the vapor pressure of the liquid mixture, as calculated by this procedure, exceeds the limits specified in Subsections (d)(3)(iii) and/or (d)(4)(iii), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-96. The solvent composition shall be determined using ASTM Standard Practice E260-96. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D3792-91 and D4457-85 and shall be used to calculate the partial pressure of water and exempt compounds. The results of vapor pressure measurements obtained using ASTM Test Method D2879-96 shall be corrected for partial pressure of water and exempt compounds.

(5) Measurement of the initial boiling point for materials subject to Subsection (d)(3)(ii) and/or (d)(4)(ii) of this rule shall be conducted in accordance with ASTM Standard Test Method D1078-95 for distillation range of volatile organic liquids.

(6) Measurement of the emission collection system capture efficiency subject to Subsection (e)(1)(iii) of this rule shall be determined according to EPA's technical document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995, using a protocol approved by the Air Pollution Control Officer. Subsequent to the initial compliance demonstration period, applicable key system operating parameters, as approved by the Air Pollution Control Officer, may be used as verification that capture efficiency has not diminished.

(7) Measurement of control device efficiency subject to Subsection (e)(1)(iii) of this rule shall be conducted with EPA Methods 18 and/or 25A (40 CFR 60) and in accordance with a protocol approved by the Air Pollution Control Officer.

(8) Measurement of solvent losses from alternative application cleaning equipment subject to Subsection (d)(4)(vii) shall be conducted and reported in accordance with the South Coast Air Quality Management District's "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems", as it exists on (*date of adoption*).

(9) Measurement of the solids content of adhesive materials pursuant to Subsection (c)(17) shall be conducted in accordance with EPA Test Method 24 (40 CFR 60, Appendix A).

(10) Measurement of the VOC content of adhesive materials pursuant to Subsection (c)(35) shall be conducted in accordance with South Coast Air Quality Management District's Method 316B, as it exists on (*date of adoption*).

(11) Measurement of the flash point of a material pursuant to Subsection (c)(20) shall be conducted in accordance with the ASTM Standard Test Method D3941-90.

(h) COMPLIANCE SCHEDULE

(1) Any person operating existing equipment and electing to use control equipment to comply with one or more of Subsections (d)(1) through (d)(4) requirements of this rule shall meet the following increments of progress:

(i) By (*12 months after date of adoption*), submit to the Air Pollution Control Officer an application for Authority to Construct and Permit to Operate an air pollution control system meeting the requirements of Section (e).

(ii) By (*18 months after date of adoption*), demonstrate compliance with Section (e).

(2) Any person installing new equipment who is electing to use control equipment to comply with one or more of Subsections (d)(1) through (d)(4) requirements of this rule shall comply with the provisions of Section (e) at startup.