

ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

**RULE 1136 -- WOOD PRODUCTS COATINGS**

*(Adopted: 09/16/83; Amended: 08/05/88; Amended: 05/05/89; Amended: 03/02/90; Amended: 06/28/90; Amended: 11/02/90; Amended: 12/07/90; Amended: 12/07/90; Amended: 08/02/91; Amended: 04/08/94; Amended: 08/12/94; Amended: 08/08/95; Amended: 06/14/96)*

(a) Purpose and Applicability

The purpose of Rule 1136 is to reduce volatile organic compounds (VOC) emissions from the application of coatings or strippers to, and surface preparation of, any wood products, including furniture, cabinets, shutters, frames and toys. This rule shall not apply to residential noncommercial operations.

(b) Definitions

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

- (1) AEROSOL COATING PRODUCT means a pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application.
- (2) BARRIER COAT - PLASTIC COMPONENTS is a coating applied to simulated wood components made from polypropylene, polystyrene, polyester, polyurethane, and other plastics to improve adhesion of waterborne coatings.
- (3) BINDERS are non-volatile polymeric organic materials (resins) which form the surface film in coating applications.
- (4) CAPTURE EFFICIENCY, in percent, is the ratio of the weight of the VOC in the effluent stream entering the control device to the weight of VOC emitted from wood product coating operations, both measured simultaneously, and can be calculated by the following equation:

$$\text{Capture Efficiency} = [W_c/W_e] \times 100$$

Where:  $W_c$  = weight of VOC entering control device

$W_e$  = weight of VOC emitted

- (5) CLASSIC GUITARS are replicas of guitars that were originally manufactured before 1965 and are manufactured by the same original processes.
- (6) CLEAR SEALER is a coating containing binders, but not opaque pigments, which seals the wood product prior to application of the subsequent coatings.

- (7) CLEAR TOPCOAT is a final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.
- (8) COATING is a material which is applied to a surface and which forms a film in order to beautify and/or protect such surface.
- (9) COMPOSITE WOOD is a manufactured material consisting of tightly compressed wood fibers bonded with resins which includes, but is not limited to, particleboard, fiberboard and hardboard.
- (10) COMPOSITE WOOD EDGE FILLER is a material which is applied to the edge of a composite wood product, and whose primary function is to build up, or fill the voids and imperfections on the edge of the composite wood product.
- (11) CONTROL DEVICE EFFICIENCY, in percent, is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously, and can be calculated by the following equation:
- $$\text{Control Device Efficiency} = [(W_c - W_a) / W_c] \times 100$$
- Where:  $W_c$  = weight of VOC entering control device  
 $W_a$  = weight of VOC discharged from the control device
- (12) CONVENTIONAL AIR SPRAY means a spray coating method in which the coating is atomized by mixing it with compressed air at an air pressure greater than 10 pounds per square inch (gauge) at the point of atomization. Airless and air assisted airless spray technologies are not conventional air spray because the coating is not atomized by mixing it with compressed air. Electrostatic spray technology is also not considered conventional air spray because an electrostatic charge is employed to attract the coating to the workpiece.
- (13) CUSTOM REPLICA FURNITURE is new, made-to-order furniture that looks like antique furniture, rather than new furniture. It features detailed wood carvings and bruising of the wood to simulate antique furniture.
- (14) DIP COAT is to dip an object into a vat of coating material and drain off any excess coating.
- (15) ELECTROSTATIC APPLICATION is charging of atomized paint droplets for deposition by electrostatic attraction.
- (16) EXEMPT COMPOUNDS - See Rule 102.

- (17) EXTREME PERFORMANCE COATING is a two-component high-solids epoxy, urethane or polyester coating which requires the mixing of a resin and a catalyst, and is applied to a wood product to achieve a high gloss and/or high film build coat which cannot be achieved with a low-VOC coating, or to protect the wood product from one or more of the following environmental conditions:
- (A) Repeated scrubbing with industrial grade detergents, cleaners, or abrasive scouring agents; or
  - (B) Frequent exposure to water, to outdoor weather, or to ultraviolet radiation.
- (18) FILLER is a material which is applied to a wood product, and whose primary function is to build up, or fill the voids and imperfections in the wood product to be coated. This shall not include composite wood edge filler.
- (19) FLOW COAT is to coat an object by flowing a stream of coating over an object and draining off any excess coating.
- (20) GLAZES are a type of stain used to soften or blend the original color without obscuring it.
- (21) GRAMS OF VOC PER LITER OF COATING, LESS WATER AND LESS EXEMPT COMPOUNDS is the weight of VOC per combined volume of VOC and coating solids and can be calculated by the following equation:

$$\begin{array}{l} \text{Grams of VOC per Liter of Coating, Less} \\ \text{Water and Less Exempt Compounds} \end{array} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:  $W_s$  = weight of volatile compounds in grams  
 $W_w$  = weight of water in grams  
 $W_{es}$  = weight of exempt compounds in grams  
 $V_m$  = volume of material in liters  
 $V_w$  = volume of water in liters  
 $V_{es}$  = volume of exempt compounds in liters

For coatings that contain reactive diluents, the VOC content of the coating is determined after curing. The grams of VOC per liter of coating shall be calculated by the following equation:

$$\begin{array}{l} \text{Grams of VOC per Liter of Coating, Less} \\ \text{Water and Less Exempt Compounds} \end{array} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:  $W_s$  = weight of volatile compounds, in grams, emitted into the atmosphere during curing  
 $W_w$  = weight of water, in grams, emitted into the atmosphere during curing  
 $W_{es}$  = weight of exempt compounds, in grams, emitted into the atmosphere during curing

- $V_m$  = volume of the material, in liters, prior to reaction
- $V_w$  = volume of water, in liters, emitted into the atmosphere during curing
- $V_{es}$  = volume of exempt compounds, in liters, emitted into the atmosphere during curing

- (22) 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
  - $W_{es}$  = weight of exempt compounds in grams
  - $V_m$  = volume of material in liters

- (23) HIGH FILM BUILD is when the dry-film thickness per application is greater than four thousandths of an inch.
- (24) HIGH GLOSS is when a coating surface shows a reflectance of 75 or more on a 60 degree meter.
- (25) HIGH-SOLIDS STAINS are stains containing more than 1 pound of solids per gallon of material, and include wiping stains, glazes, and opaque stains.
- (26) HIGH-VOLUME, LOW-PRESSURE (HVLP) SPRAY is an equipment used to apply coating by means of a spray gun which is designed to be operated and which is operated between 0.1 and 10.0 pounds per square inch gauge (psig) air pressure, measured dynamically at the center of the air cap and at the air horns.
- (27) INK is a fluid that contains dyes and/or colorants and is used to make markings, but not to protect surfaces.
- (28) JAPANS are saturated, pure pigments ground in a varnish-like vehicle used as a stain or glaze to create artistic effects, including but not limited to, dirt, old age, smoke damage, and simulated marble and wood grain.
- (29) LOW-SOLIDS COATING is a coating containing 1 pound, or less, of solids per gallon of material.
- (30) MOLD-SEAL COATING is the initial coating applied to a new mold or repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.
- (31) MULTI-COLORED COATING is a coating which exhibits more than one color when applied, and which is packaged in a single container and applied in a single coat.

- (32) OVERALL CONTROL EFFICIENCY (C.E.), in percent, is the ratio of the weight of the VOC removed by the emission control system, to the total weight of VOC emitted from wood product coating operations, both measured simultaneously, and can be calculated by the following equations:

$$\text{C.E.} = [(W_c - W_a) / W_e] \times 100$$

$$\text{C.E.} = [(\text{Capture Efficiency}) \times (\text{Control Device Efficiency})] / 100$$

Where:  $W_c$  = weight of VOC entering control device

$W_a$  = Weight of VOC discharged from the control device

$W_e$  = weight of VOC emitted

- (33) PIGMENTED PRIMERS, SEALERS, AND UNDERCOATS are opaque coatings which contain binders and colored pigments formulated to hide the wood surface, that are applied prior to the topcoat to provide a firm bond, level the wood product surface, or seal the wood product surface.
- (34) PIGMENTED TOPCOAT is a final opaque coating which contains binders and colored pigments, and is specifically formulated to hide the wood surface and form a solid protective film.
- (35) POTENTIAL TO EMIT means the maximum capacity of a facility to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation, emissions, or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the EPA Administrator.
- (36) POUNDS OF VOC PER POUND OF SOLIDS is the weight of VOC per weight of coating solids within any given volume of coating and can be calculated by the following equation:

$$\text{Pounds of VOC per Pound of Solids} = \frac{W_s - W_w - W_{es}}{W_r}$$

Where:  $W_s$  = weight of volatile compounds in pounds

$W_w$  = weight of water in pounds

$W_{es}$  = weight of exempt compounds in pounds

$W_r$  = weight of coating solids in pounds

For coatings that contain reactive diluents, the VOC content of the coating is determined after curing. The pounds of VOC per pound of coating solids shall be calculated by the following equation:

$$\text{Pounds of VOC per Pound of Solids} = \frac{W_s - W_w - W_{es}}{W_r}$$

Where:  $W_s$  = weight of volatile compounds, in pounds, emitted into the atmosphere during curing  
 $W_w$  = weight of water, in pounds, emitted into the atmosphere during curing  
 $W_{es}$  = weight of exempt compounds, in pounds, emitted into the atmosphere during curing  
 $W_r$  = weight of coating solids, in pounds, prior to reaction

- (37) REACTIVE DILUENT is a liquid which is a VOC during application and one in which, through chemical or physical reactions, such as polymerization, becomes an integral part of a finished coating.
- (38) RATE PER DAY is the amount applied between 12:00 a.m. and 11:59 p.m. on the same calendar day.
- (39) RATE PER CALENDAR YEAR is the amount applied between 12:00 a.m. January 1 and 11:59 p.m. December 31.
- (40) REFINISH is the recoating of wood products that have been previously coated.
- (41) REPAIR COATING is a coating used to recoat portions of a wood product which has sustained damage to the coating following normal painting operations.
- (42) ROLL COATER is a series of mechanical rollers that applies a thin coating on the wood product.
- (43) SHUTTER is a movable screen or cover for a window, usually hinged and often fitted with louvers.
- (44) SIMULATED WOOD MATERIALS are materials, such as plastic, glass, metal, paper etc., that are made to give a wood-like appearance or are processed like a wood product.
- (45) STENCIL COATING is an ink or a pigmented coating which is rolled or brushed onto a template or stamp in order to add identifying letters and/or numbers to wood products.
- (46) STRIPPER is a liquid used to remove cured coatings, cured inks and/or cured adhesives.
- (47) TONER is a wash coat which contains binders and dyes or pigments to add tint to a coated surface.

- (48) TOUCH-UP COATING is a coating used to cover minor coating imperfections appearing after the main coating operation.
- (49) TRANSFER EFFICIENCY is the ratio of the weight of coating solids deposited on an object to the total weight of coating solids used in a coating application step, expressed as a percentage.
- (50) 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:

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

Where:

$W_i$  = Weight of the "i"th VOC compound, in grams (g)

$W_w$  = Weight of water, in grams (g)

$W_e$  = Weight of exempt compound, in grams (g)

$MW_i$  = Molecular weight of the "i"th VOC compound, in  $\frac{g}{g\text{-mole}}$

$MW_w$  = Molecular weight of water, in  $\frac{g}{g\text{-mole}}$

$MW_e$  = Molecular weight of exempt compound, in  $\frac{g}{g\text{-mole}}$

$PP_c$  = 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

- (51) VOLATILE ORGANIC COMPOUND (VOC) is any volatile compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds.
- (52) WASHCOAT is a coating that contains no more than 1.0 pound of solids per gallon of material, and which is used to seal wood product surfaces, for any of the following purposes:
- (A) to prevent undesired staining,
  - (B) to control penetration,
  - (C) to provide a barrier when paper laminates are applied to the wood product,

- (D) to seal glazes,
- (E) to improve adhesion of a waterborne topcoat.

(53) WOOD PRODUCTS are those surface-coated room furnishings which include cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas, shutters, art objects, and any other coated objects made of wood, composite wood, simulated wood material used in combination with wood or composite wood; and/or paper laminated on composite wood.

(54) WOOD PRODUCT COATING APPLICATION OPERATIONS are a combination of coating application steps which may include use of spray guns, flash-off areas, spray booths, ovens, conveyors, and/or other equipment operated for the purpose of applying coating materials.

(c) Requirements

(1) VOC Content of Coatings and Strippers

(A) A person or facility shall not apply any coating to a wood product which has a VOC content, including any VOC-containing material added to the original coating supplied by the manufacturer, which exceeds the applicable limit specified below:

(i)

**VOC LIMITS**

Grams Per Liter (lb/gal) of Coating, [lbs VOC/lb of solids],  
Less Water and Less Exempt Compounds

<b>COATING</b>	<b>Current Limit</b>	<b>On and After 7/1/97</b>		<b>On and After 7/1/2005</b>
		<b>I</b>	<b>or</b> <b>II</b>	
Clear Sealers	680 (5.7) [3.36]	550 (4.6) [1.39]	680 (5.7) [3.36]	275 (2.3) [0.36]
Clear Topcoat	680 (5.7) [2.99]	550 (4.6) [1.37]	275 (2.3) [0.35]	275 (2.3) [0.35]
Pigmented Primers, Sealers & Undercoats	600 (5.0) [1.08]	550 (4.6) [1.06]	600 (5.0) [1.08]	275 (2.3) [0.21]
Pigmented Topcoats	600 (5.0) [1.38]	550 (4.6) [1.10]	275 (2.3) [0.25]	275 (2.3) [0.25]

Effective July 1, 1997, a person or facility shall use coatings on a wood product that comply with either all VOC limits in column I or all VOC limits in column II. A person or facility that applies a primer, sealer or undercoat, but not a topcoat, to a wood product, shall be subject to column I for that wood product.

(ii) Notwithstanding the requirements of clause (c)(1)(A)(i), a person or facility that applies a topcoat and a primer, sealer or undercoat to a shutter may, until July 1, 2005, choose to comply with the VOC limits specified below for that shutter:



**VOC LIMITS**

Grams Per Liter, (lb/gal) of Coating, [lbs VOC/lb of solids],  
Less Water and Less Exempt Compounds

**COATING**

Clear Sealers	275 (2.3) [0.36]
Clear Topcoat	680 (5.7) [2.99]
Pigmented Primers, Sealers & Undercoats	275 (2.3) [0.33]
Pigmented Topcoats	600 (5.0) [1.38]

(iii)

**VOC LIMITS**

Grams Per Liter, (lb/gal) of Coating, [lbs VOC/lb of solids],  
Less Water and Less Exempt Compounds

<b><u>COATING</u></b>	<b><u>Current Limit</u></b>	<b><u>On and After 7/1/97</u></b>	<b><u>On and After 7/1/2005</u></b>
Barrier Coat - Plastic Components	800 (6.7) [6.3]	760 (6.3) [3.9]	275 (2.3) [0.28]
Composite Wood Edge Filler	680 (5.7) [2.34]	550 (4.6) [1.15]	275 (2.3) [0.31]
Extreme Performance Coatings	420 (3.5) [0.51]	420 (3.5) [0.51]	275 (2.3) [0.33]
Fillers	500 (4.2) [0.66]	500 (4.2) [0.66]	275 (2.3) [0.18]
High-Solid Stains	700 (5.8) [2.84]	550 (4.6) [1.23]	350 (2.9) [0.42]
Inks	500 (4.2) [0.96]	500 (4.2) [0.96]	500 (4.2) [0.96]
Mold-Seal Coatings	750 (6.3) [4.2]	750 (6.3) [4.2]	750 (6.3) [4.2]
Multi-Colored Coatings	685 (5.7) [2.6]	685 (5.7) [2.6]	275 (2.3) [0.33]

**VOC LIMITS**

Grams Per Liter (lb/gal) of Material

<b><u>COATING</u></b>	<b><u>Current Limit</u></b>	<b><u>On and After 7/1/97</u></b>	<b><u>On and After 7/1/2005</u></b>
Low-Solids Barrier Coat - Plastic Components	800 (6.7)	760 (6.3)	120 (1.0)
Low-Solid Stains, Toners, and Washcoats	800 (6.7)	480 (4.0)	120 (1.0)

Any coating subject to this rule that meets any of the three VOC limit formats (grams per liter, lb/gal, or lbs VOC/lb of solids) is in compliance with this subparagraph.

- (B) A person shall not use a stripper on wood products unless:
- (i) it contains less than 350 grams of VOC per liter of material; or
  - (ii) the VOC composite vapor pressure is 2 mm Hg (0.04 psia) or less at 20°C (68°F).

- (C) Owners and/or operators may comply with provisions of paragraph (c)(1)(A) and (B) by using an approved air pollution control system, consisting of collection and control devices, which reduces VOC emissions from the application of wood product coatings or strippers by an equivalent or greater amount than the limits specified in subparagraphs (c)(1)(A) and (B), with the written approval of the Executive Officer. The minimum required overall control efficiency of an emission control system at which an equivalent or greater level of VOC reduction will be achieved shall be calculated by the following equation:

$$\text{C.E.} = \left[ 1 - \left\{ \frac{(\text{VOC}_{\text{LWc}})}{(\text{VOC}_{\text{LWn,Max}})} \times \frac{1 - (\text{VOC}_{\text{LWn,Max}}/D_{\text{n,Max}})}{1 - (\text{VOC}_{\text{LWc}}/D_{\text{c}})} \right\} \right] \times 100$$

- Where:
- C.E. = Overall Control Efficiency, percent
  - $\text{VOC}_{\text{LWc}}$  = VOC Limit of Rule 1136, less water and less exempt compounds, pursuant to subparagraph (c)(1)(A).
  - $\text{VOC}_{\text{LWn,Max}}$  = Maximum VOC content of non-compliant coating used in conjunction with a control device, less water and less exempt compounds.
  - $D_{\text{n,Max}}$  = Density of solvent, reducer, or thinner contained in the non-compliant coating, containing the maximum VOC content of the multicomponent coating.
  - $D_{\text{c}}$  = Density of corresponding solvent, reducer, or thinner used in the compliant coating system = 880 G/L.

(D) Emissions Averaging Provisions

- (i) Owners or operators may comply with the provisions of subparagraph (c)(1)(A) by using an averaging approach for all or a portion of the coatings used at the facility, provided all requirements of this subparagraph are met. The owner or operator shall demonstrate that actual emissions from the coatings being averaged are less than or equal to 90 percent of the allowable emissions, on a daily basis, using the following inequality:

$$0.09 \sum_{i=1}^n \text{VOC}_i (U_i) \geq \sum_{i=1}^n \text{ER}_i (U_i)$$

Where:

- $\text{VOC}_i$  = VOC content limit of coating “i” (pounds (lb) of VOC/gallon of material for low solids coatings; and lb VOC/lb of solids for all other coatings), as required by subparagraph (c)(1)(A);

- $U_i$  = Usage of coating “i” (gallons of material for low-solids coatings; and lb of solids for all other coatings); and
- $ER_i$  = Actual VOC content of coating “i”, as applied (lb of VOC/gallon of material for low-solids materials; and lb VOC/lb of solids for all other coatings).

The 0.9 multiplier above is not applicable after June 30, 2005, or to facilities with a potential to emit less than 10 tons of VOC per year. Any wood product coating not included in the emission averaging shall comply with the VOC limits in subparagraph (c)(1)(A).

(ii) Emissions Averaging Plan (Plan)

Owners or operators shall submit a Plan, pursuant to Rule 221 - Plans, to the Executive Officer to participate in emissions averaging. The plan may not be implemented until it is approved in writing by the Executive Officer. Submittal of the Plan does not provide an exemption from the rule requirements. The Plan shall include, at a minimum:

- (I) A description of the wood product coatings to be included in the averaging program; and
- (II) A description of the quantification and recordkeeping procedures for coating usage; coating VOC and solids content; VOC emissions; and calculations to show daily compliance with clause (c)(1)(D)(i).

(2) Transfer Efficiency

A person or facility shall not apply coatings to wood products subject to the provisions of this rule unless the coating is applied with properly operating equipment, according to the equipment manufacturer's operating procedures, and by the use of one of the following methods:

- (A) electrostatic application; or
- (B) flow coat; or
- (C) dip coat; or
- (D) high-volume, low-pressure (HVLP) spray; or
- (E) paint brush; or
- (F) hand roller; or
- (G) roll coater; or

(H) such other coating application methods as are demonstrated to the Executive Officer to be capable of achieving at least 65 percent transfer efficiency, and for which written approval of the Executive Officer has been obtained.

(3) Solvent Cleaning Operations; Storage and Disposal of VOC-containing Materials

Solvent cleaning operations and the storage and disposal of VOC containing materials are subject to the provisions of Rule 1171 - Solvent Cleaning Operations.

(d) Recordkeeping Requirements

Records shall be maintained pursuant to Rule 109 or pursuant to an approved Emissions Averaging Plan, whichever is applicable. If compliance with the VOC limits in subparagraph (c)(1)(A) is based on the pounds of VOC per pound of solids format, then the operator shall keep a record of the VOC content of the coating in pounds of VOC per pound of solids in addition to complying with the requirements of Rule 109.

(e) Prohibition of Specifications

A person shall not specify the use in the District of any coating to be applied to any wood products subject to the provisions of this rule that does not meet the limits and/or requirements of this rule. The requirements of this paragraph shall apply to all written or oral contracts.

(f) Test Methods

(1) The VOC content of coatings and strippers shall be determined by:

(A) United States Environmental Protection Agency (USEPA) Reference Method 24 (Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coating, Code of Federal Regulations Title 40, Appendix A), or Method 304 (Determination of Volatile Organic Compounds (VOCs) in Various Materials) in the South Coast Air Quality Management District (SCAQMD) "Laboratory Methods of Analysis for Enforcement Samples" manual.

(B) The exempt compounds' content shall be determined by:

(i) Methods 302 (Distillation of Solvents from Paints, Coatings and Inks) and 303 (Determination of Exempt Compounds) in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.

- (ii) 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 at such time as manufacturers specify which individual compounds are used in the coating formulations and identify the test methods, which, prior to such analysis, have been approved by the USEPA and the SCAQMD, that can be used to quantify the amounts of each exempt compound.
- (2) Film build thickness shall be determined using American Society of Testing Materials (ASTM) Test Method D5235, as adopted in 1992.
- (3) Gloss shall be determined using ASTM Test Method D 523, as adopted in 1989.
- (4) For the purpose of calculating the VOC composite vapor pressure of a VOC-containing material, the composition of the material shall be based on the known formulation of the material or determined by Method 308 in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples".
- (5) For determining the concentration of VOC in a gas stream and the efficiency of a control device, the total organic compound concentrations shall be determined using USEPA Test Method 25, 25A, or SCAQMD Method 25.1 (Determination of Total Gaseous Non-Methane Organic Emissions as Carbon) as applicable, and the concentration of exempt compounds shall be determined using either USEPA Test Method 18 or California Air Resources Board Method 422.
- (6) The capture efficiency of an emission control system as defined in paragraph (b)(3) shall be determined by a minimum of three sampling runs subject to the data quality objective (DQO) 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:
  - (A) Applicable USEPA Methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
  - (B) The SCAQMD "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency"; or
  - (C) Any other method approved by the USEPA, the California Air Resources Board, and the SCAQMD Executive Officer.

- (7) The transfer efficiency of alternative coating application methods shall be determined in accordance with the SCAQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989."
- (8) 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.
- (9) All test methods referenced in this subdivision shall be the most recently approved version.

(g) **Continuous Monitors**

- (1) Each coating operation subject to subparagraph (c)(1)(C) shall have a continuous monitor, as approved by the Executive Officer, for any add-on control device used to meet the control requirement.
- (2) Records of the monitoring devices pursuant to paragraph (g)(1) and other data necessary to demonstrate compliance with the control requirements shall be maintained on the premises and made accessible for a period of two years to the Executive Officer in a form and manner as specified by the Executive Officer.
- (3) Compliance with subparagraph (c)(1)(C) shall be determined by source testing and/or evaluating continuous monitor data.
- (4) Each monitoring device used pursuant to paragraph (g)(1) shall be calibrated in a manner approved by the Executive Officer and maintained in optimum working order.

(h) **Rule 442 Applicability**

Any coating, coating operation, or facility which is exempt from all or a portion of the VOC limits of this rule shall comply with the provisions of Rule 442 unless compliance with the limits specified in this rule is achieved.

(i) **Alternative Emission Control Plan**

An owner or operator may achieve compliance with paragraph (c)(1) by means of an Alternative Emission Control Plan pursuant to Rule 108.

(j) Progress Reports

Owners or operators shall submit a progress report to the Executive Officer by January 1, 2003. The Progress Report shall include at a minimum:

- (1) a statement that the facility or facilities are in compliance with the final Rule 1136 VOC limits; or
- (2) for each facility, a description of their wood coating process, the wood product types, the wood coatings currently in use and their VOC contents, the low-VOC wood coatings which will be tested, any expected wood coating process or control equipment modifications, and the results of previous low-VOC coating tests. Facilities shall also report if they are planning to use Mobile Source Emission Reduction Credits (MSERCs) pursuant to Regulation XVI or other alternative emission reductions allowed by District rules.

(k) Air Quality Management Plan (AQMP) Technology Assessment Audit

The Executive Officer shall audit Rule 1136 by July 1, 2003 to assess the feasibility of the final VOC limits and whether new technology could provide additional reductions to meet the District's AQMP objectives.

(l) Exemptions

- (1) The provisions of paragraphs (c)(1) and (c)(2) of this rule shall not apply to facilities that use less than one gallon per day of coating, as applied, subject to this rule.
- (2) The provisions of this rule shall not apply to coating operations subject to, and in compliance with, the provisions of Rule 1104.
- (3) The provisions of subparagraphs (c)(1)(A) and (C) shall not apply to the manufacturing of classic guitars until July 1, 2005.
- (4) Refinishing, Replacement, and Custom Replica Furniture Operations: Until July 1, 1998, the provisions of subparagraphs (c)(1)(A) and (C) shall not apply to any refinishing operations necessary for preservation, to return the wood product to original condition, to replace missing furniture to produce a matching set, or to produce custom replica furniture, provided records are maintained daily for two years as to the amount, type and VOC content of each coating used.
- (5) The provisions of paragraph (c)(1) shall not apply to touch-up and repair coatings until July 1, 2005.
- (6) The provisions of this rule shall not apply to aerosol coating products.

- (7) Notwithstanding the requirements of Rule 109(c)(1), Recordkeeping for Volatile Organic Compound Emissions, any facility that switches to waterborne coatings that meet the July 1, 2005 VOC limits may request written approval from the Executive Officer to record data on up to a quarterly basis, provided the Executive Officer determines that such recordkeeping allows for an equivalent level of enforceability.
- (8) Notwithstanding the provisions of paragraph (c)(2), a person or facility may use:
  - (A) any spray equipment that uses only coatings that comply with the July 1, 2005 VOC limits; or
  - (B) any spray equipment, except conventional air spray, that uses only coatings that contain 550 grams, or less, of VOC per liter of coating, less water and less exempt compounds.
- (9) The provisions of paragraph (c)(2) shall not apply to air brushes with a capacity of four fluid ounces, or less.
- (10) The provisions of subparagraph (c)(1)(A) shall not apply to japans, provided the VOC content is 700 grams of VOC per liter of coating, less water and exempt compounds, or less, as applied.
- (11) Notwithstanding the provisions of subparagraph (c)(1)(A), a person or facility may add up to 10% by volume of VOC to a topcoat, primer, sealer or undercoat to avoid blushing of the finish during high humidity provided that:
  - (A) the coating is not applied from April 1 to October 31 of any year; and
  - (B) the coating contains acetone and no more than 550 grams of VOC per liter of coating, less water and exempt compounds, prior to the addition of VOC.

[SIP: Submitted as amended 6/14/96 on 8/28/96; Approved 10/31/95, 60 FR 55312, 40 CFR 52.220(c)(225)(i)(A)(1); Approved 4/14/94, 59 FR 17698, 40 CFR 52.220(c)(189)(i)(A)(4); Approved 7/8/82, 47 FR 29668, 40 CFR 52.220(c)(85)(vii)(A)]