(Adopted 08/28/06; Amended 10/23/06;
Amended: 10/24/16)

Rule 1106
Marine and Pleasure Craft Coating Operations

(A) General

(1) Purpose

(a) The purpose of this rule is to limit the emissions of Volatile Organic Compounds (VOC) from Marine and Pleasure Craft Coating Operations.

(2) Applicability

(a) This rule applies to all Coating Operations of both commercial boats and Ships, Pleasure Craft and their appurtenances, and to the Coating of buoys and oil drilling rigs, or their parts and components intended for the marine environment, which occur within the Mojave Desert Air Quality Management District.

(b) 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 applicable provisions of Rules 1114 – *Wood Products Coating Operations*, 1115 – *Metal Parts & Products Coating Operations* and 442 – *Usage of Solvents*.

(B) Definitions

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

(1) "Adhesive" – Any substance that is used to bond one surface to another surface by attachment.

(2) "Aerosol Coating Product" – A hand-held, non-refillable container that expels pressurized materials by means of a propellant-induced force.

(3) "Air-Dried Coating" – Any Coating that is not heated above 90°C (194°F) for the purpose of curing or drying.

(4) "Air Flask Coating" – A Coating applied to the interior surfaces of high pressure breathing air flasks to provide corrosion resistance and which is certified safe for use with breathing air supplies.

(5) "Antenna Coating" – Any Coating applied to equipment and associated structural appurtenances that are used to receive or transmit electronic signals.

(6) "Antifoulant Coating" – Any Coating applied to the underwater portion of a vessel to prevent or reduce the attachment of biological organisms and is registered with the United States Environmental Protection Agency (USEPA) as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act.

(7) "As Applied" – The condition of a Coating at the time of application to the substrate, including any thinning solvent.

(8) "As Supplied" – The condition of a Coating before any thinning, as sold and delivered by the Coating manufacturer to the user.

(9) "Baked-Coating" – Any Coating that is cured at a temperature at or above 90°C (194°F).

(10) "Bitumens" – Black or brown materials that are soluble in carbon disulfide and consist mainly of hydrocarbons.

(11) "Bituminous Resin Coating" – Any Coating that incorporates Bitumens as a principal component and is formulated primarily to be applied to a substrate or surface to resist ultraviolet radiation and/or water.

(12) "Clear Topcoat" – A final Coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film. Including, but not limited to, Varnishes.

(13) "Clear Wood Finishes" – Clear and semi-transparent Topcoats applied to wood substrates to provide a transparent or translucent film.

(14) "Coating" – A material that is applied to a surface and forms a film in order to identify, beautify, protect, convey a message, or minimize detection of such surface. Coating includes, but is not limited to, materials such as Topcoats, stains, Sealers, primers, fillers, conversion Varnish, pigmented Coating, multicolored Coating, moldseal Coating, washcoat and toner.

(15) "Compliance Assurance Monitoring" – The combined total equipment, mechanism(s), and/or technique(s) used to demonstrate and insure compliance with control device efficiency requirements. Such monitoring is used to analyze and/or provide a permanent record of process parameters, such as temperatures, pressures and flow rates.

(16) "District" – The Mojave Desert Air Quality Management District the geographical area of which is described in District Rule 103 – *Description of District Boundaries*.

(17) "Elastomeric Adhesive" – Any Adhesive containing natural or synthetic rubber.

(18) "Epoxy" – Any thermoset Coating formed by reaction of an Epoxy resin (i.e., a resin containing a reactive epoxide with a curing agent).

(19) "Exempt Compound" – Those compounds listed in 40 CFR §51.100(s).

(20) "Extreme High-Gloss Coating" – A Coating that achieves at least a 95 percent reflectance on a 60° meter when tested by American Society for Testing and Materials (ASTM) Method D523–89 *Standard Test Method for Specular Gloss*.

(21) "Extreme Performance Coating" – A Coating that is used on a metal surface where the coated surface, in its intended use, is acutely and chronically exposed to salt water, corrosives, caustics, acids, oxidizing agents, wind or ocean driven debris or electromagnetic pulse.

(22) "Finish Primer/Surfacer" – A Coating applied with a wet film thickness of less than 10 mils (0.01 inch) prior to the application of a Topcoat for purposes of providing corrosion resistance, adhesion of subsequent Coatings, a moisture barrier, or promotion of a uniform surface necessary for filling in surface imperfections.

(23) "General Use Coating" – Any Coating that is not a Specialty Coating, or does not have an otherwise specified limit.

(24) "Grams of VOC per Liter of Coating Less Water and Less Exempt Compounds" (VOC Content) – The weight of VOC per combined volume of VOC and Coating solids, calculated using the formula in subsection (E)(1)(a).

(25) "Grams of VOC per Liter of Material" – The weight of VOC per volume of material, calculated using the formula found in subsection (E)(1)(b).

(26) "Heat-Resistant Coating" – Any Coating which during normal use must withstand temperatures of at least 204°C (400°F).

(27) "High Build Primer/Surfacer" – A Coating applied with a wet film thickness of 10 mils (0.01 inch) or more prior to the application of a Topcoat for purposes of providing corrosion resistance, adhesion of subsequent Coatings, or a moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

(28) "High Gloss Coating" – Any Coating which achieves at least 85 percent reflectance on a 60° meter when tested by ASTM Method D523–89 *Standard Test Method for Specular Gloss*.

(29) "High-Temperature Coating" – Any Coating that during normal use must withstand temperatures of at least 426°C (800°F).

(30) "High-Volume, Low-Pressure (HVLP) Spray" – Spray equipment permanently labeled as such and which is designed and operated between 0.1 and 10 pounds per square inch gauge (psig) air atomizing pressure, measured dynamically at the center of the air cap and at the air horns.

(31) "Inorganic Zinc (High-Build) Coating" – A Coating that contains 960 grams per liter (eight (8) pounds per gallon) or more elemental zinc incorporated into an inorganic silicate binder that is applied to steel to provide galvanic corrosion resistance. These Coatings are typically applied at more than two (2) mil (0.002 inch) dry film thickness.

(32) "Low Activation Interior Coating" – Any Coating used on interior surfaces aboard Ships to minimize the activation of pigments on painted surfaces within a radiation environment.

(33) "Marine Coating" – Any Coating, except unsaturated polyester resin (fiberglass) Coatings, containing Volatile Organic Compounds and applied by any means to Ships, boats, and their appurtenances, and to navigational aids and oil drilling rigs intended for the marine environment.

(34) "Marine Deck Sealant Primer" – Any sealant primer intended by the manufacturer to be applied to wooden marine decks. A sealant primer is any product intended by the manufacturer to be applied to a substrate, prior to the application of a sealant, to enhance the bonding surface.

(35) "Metallic Heat-Resistant Coating" – Any Coating which contains more than five (5) grams of metal particles per liter of Coating As Applied and which must withstand temperatures over 80°C (175°F).

(36) "Military Exterior Coating" or "Chemical Agent Resistant Coating" (CARC) – Any exterior Topcoat intended by the manufacturer to be applied to military vessels (including US Coast Guard) that are subject to specified chemical, biological, and radiological washdown requirements.

(37) "Mist Coating" – Any low viscosity, thin film, Epoxy Coating applied to an inorganic zinc primer that penetrates the porous zinc primer and allows the occluded air to escape through the paint film prior to curing.

(38) "Navigational Aids Coating" – Any Coating applied to US Coast Guard Buoys or other US Coast Guard waterway markers when they are recoated aboard Ship at their usage site and immediately returned to the water.

(39) "Non-Skid Coating" – Any Coating which has, as its primary purpose, the creation of traction to prevent slippage for personnel, vehicles or aircraft.

(40) "Nuclear Coating" – Any protective Coating used to seal porous surfaces such as steel (or concrete) that otherwise would be subject to intrusion by radioactive materials. These Coatings must be resistant to long-term (service life) cumulative radiation exposure as tested by ASTM D4082–89 *Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants*, relatively easy to decontaminate as determined by ASTM D4256–89, 94 *Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants*, and resistant to various chemicals to which the Coatings are likely to be exposed as tested by ASTM D3912–80 *Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants*.

(41) "Organic Zinc Coating" – Any Coating derived from zinc dust incorporated into an organic binder that contains more than 960 grams of elemental zinc per liter (eight (8) pounds per gallon) of Coating, As Applied, and that is used for the expressed purpose of corrosion protection.

(42) "Overall Control Efficiency" (CE) – The ratio, expressed as a percentage, of the weight of the VOC removed by the emission control system to the total weight of VOC emitted from Coating application operations, both measured simultaneously, calculated pursuant to the formula found in subsection (E)(1)(c).

(43) "Pleasure Craft" – Vessels which are manufactured or operated primarily for recreational purposes, or leased, rented, or chartered to a person or business for recreational purposes. The owner or operator of such vessels shall be responsible for certifying that the intended use is for recreational purposes.

(44) "Pleasure Craft Coating" – Any Coating, except unsaturated polyester resin (fiberglass) Coatings, applied by brush, spray, roller, or other means to a Pleasure Craft.

(45) "Pretreatment Wash Primer" – A Coating which contains no more than 12 percent solids, by weight, and at least one-half (½) percent acids, by weight; is used to provide surface etching; and is applied directly to fiberglass and metal surfaces to provide corrosion resistance and adhesion of subsequent Coatings.

(46) "Repair and Maintenance Thermoplastic Coating" – Any resin-bearing Coating, such as vinyl, chlorinated rubber, or Bituminous Resin Coatings, in which the resin becomes pliable with the application of heat, and is used to recoat portions of a previously coated substrate which has sustained damage to the Coating following normal operations purposes.

(47) "Rubber Camouflage Coating" – Any specially formulated Epoxy Coating used as a camouflage Topcoat for exterior submarine hulls and sonar domes.

(48) "Sealant for Wire-Sprayed Aluminum" – Any Coating of up to one (1) mil (0.001 inch) in thickness of an Epoxy material which is reduced for application with an equal part of an appropriate solvent (naphtha, or ethylene glycol monoethyl ether).

(49) "Sealer" – A low viscosity Coating, containing binders, applied to bare wood to seal surface pores to prevent subsequent Coatings from being absorbed into the wood.

(50) "Ship" – Any marine or fresh-water vessel used for military or commercial operations, including self-propelled vessels, those propelled by other craft (barges), and navigational aids (buoys). This definition includes, but is not limited to, all military and US Coast Guard vessels, commercial cargo and passenger (cruise) Ships, ferries, barges, tankers, container Ships, patrol and pilot boats, and dredges. For purposes of this rule, Pleasure Crafts and offshore oil and gas drilling platforms are not considered Ships.

(51) "South Coast Air Quality Management District" (SCAQMD) – The air quality District created pursuant to Division 26, Part 3, Chapter 5.5 of the California Health and Safety Code (commencing with §40400).

(52) "Special Marking Coating" – Any Coating used for items such as flight decks, Ship numbers, and other safety/identification applications.

(53) "Specialty Coating" – Any Coating that is manufactured and used for one of the specialized applications described in this rule.

(54) "Specialty Interior Coating" – An Extreme Performance Coating used on interior surfaces aboard Ships which has fire retardant properties and has a toxicity index of less than 0.03 in addition to existing military physical and performance requirements.

(55) "Tack Coating" – An Epoxy Coating of up to two (2) mils (0.002 inch) thick applied to an existing Epoxy Coating. The existing Epoxy Coating must have aged beyond the time limit specified by the manufacturer for application of the next coat.

(56) "Teak Primer" – A Coating applied to teak or previously oiled decks in order to improve the adhesion of a seam Sealer to wood.

(57) "Topcoat" – Any final Coating applied to the interior or exterior of a Pleasure Craft for purposes such as appearance, identification, or protection. Includes but is not limited to Varnishes.

(a) "One-Component Topcoat" – Any Topcoat where the Coating resin cures without the need for added catalyst or converter. Addition of reducers or other additives to a Topcoat shall not change the Coating's status as a one-component Topcoat.

(b) "Two-Component Topcoat" – Any Topcoat where the Coating resin cures only after adding a catalyst or converter.

(58) "Touch-Up Coating" – Any Coating used to cover minor imperfections prior to shipment appearing after the main Coating operation.

(59) "Underwater Weapons Systems Coating" – A Coating applied to any or all components of a weapons system that is intended to be launched or fired from underwater.

(60) "United States Environmental Protection Agency" (USEPA) – The United States Environmental Protection Agency, the Administrator of the USEPA and his or her authorized representative.

(61) "Varnishes" – Clear Wood Topcoats formulated with various resins to dry by chemical reaction on exposure to air.

(62) "Volatile Organic Compound" (VOC) – Any volatile compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and Exempt Compounds.

(63) "Weld-Through Preconstruction Primer" – A Coating that provides corrosion protection for steel during inventory, is typically applied at less than one (1) mil (0.001 inch) dry film thickness, does not require removal prior to welding, is temperature resistant (burn back from a weld is less than 1.25 centimeters (0.5

inch)), and does not normally require removal before applying film-building Coatings, including Inorganic Zinc (high-build) Coatings. When constructing new vessels, there may be a need to remove areas of Weld-Through Preconstruction Primer due to surface damage or contamination prior to application of film-building Coatings.

(C) Requirements

(1) VOC Content of Coatings

(a) A person shall not apply any Coating to commercial boats or Ships, Pleasure Craft and their appurtenances, and to buoys and oil drilling rigs or their parts and components intended for the marine environment, including any VOC-containing materials added to the original Coating supplied by the manufacturer, which contains VOC in excess of the limits specified in Table 1.

Table 1
COATING LIMITS
(Grams of VOC Per Liter of Coating, Less Water and Less Exempt Compounds)

Marine and Pleasure Craft Coating Materials Categories	VOC Limit Grams per Liter Coating Minus Water and Exempt Compounds	
	Air-Dried	Baked
General Use Coating – Non Pleasure Craft	340	275
General Use Coating – Pleasure Craft	420	
Specialty Coating		
Air Flask	340	
Antenna	340	
Antifoulant – Non Pleasure Craft	400	
Antifoulant – Aluminum Substrate Pleasure Craft	560	
Antifoulant – Other Substrates Pleasure Craft	330	
Clear Wood Finishes – Sealers	340	
Clear Wood Finishes – Topcoats	490	
Elastomeric Adhesives with 15%, by weight, Natural or Synthetic Rubber	730	
Extreme Performance	420	360
Extreme High Gloss	490	420
Finish Primer/Surfacer	420	
Heat-Resistant	420	360
High Build Primer/Surfacer	340	
High Gloss	340	275
High Temperature	500	
Inorganic Zinc (High-Build)	340	
Low Activation Interior	420	
Marine Deck Sealant Primer	760	
Metallic Heat-Resistant	530	

Military Exterior or CARC	340	
Mist	610	
Navigational Aids	340	
Non-Skid	340	
Nuclear	420	
Organic Zinc	360	
Pretreatment Wash Primer – Non Pleasure Craft	420	420
Pretreatment Wash Primer – Pleasure Craft	780	780
Repair and Maintenance Thermoplastic	340	340
Rubber Camouflage	340	
Sealant for Wire-Sprayed Aluminum	610	
Special Marking	420	420
Specialty Interior	340	
Tack Coat	610	
Teak Primer	775	
Topcoats – Pleasure Craft		
Extreme High-Gloss	490	420
High-Gloss	420	
One Component	490	
Two Component	650	
Underwater Weapons Systems	340	275
Weld-Through Preconstruction Primer	340	

(b) In lieu of complying with the VOC content limitations in Table 1, air pollution control equipment with a capture and control system Overall Control Efficiency of at least 90 percent, as determined pursuant to subsections (E)(2)(d) and (E)(2)(e) of this rule may be used.

(c) Any Coating, Coating operation, or facility which is exempt from all or a portion of the VOC content limits of this rule shall comply with the provisions of Rule 442 – *Usage of Solvents*, 1114 – *Wood Products Coating Operations* and 1115 – *Metal Parts & Products Coating Operations* unless compliance with the limits specified in this rule are achieved.

(2) Extreme Performance Coatings – Military Installations

(a) The VOC limits of Table 1 shall not apply to military installation use of an Extreme Performance Coating which has been approved by the Air Pollution Control Officer (APCO) in writing pursuant to this subsection.

(b) Any person seeking to use an Extreme Performance Coating in any military Coating operation which is subject to the provisions of this rule shall:

(i) Submit a petition to the APCO stating the performance requirements, volume of Coating, and VOC content which is attainable. Such petition shall include a technical justification of the attainable VOC content and an explanation why the Coating cannot meet the limits set forth in subsection (C)(1)(a).

(ii) If the APCO grants written approval, such petition shall be resubmitted for approval on an annual basis.

(iii) If the APCO grants written approval, such approval shall contain volume and VOC limit conditions.

(iv) Records shall be maintained pursuant to Section (D).

(3) Transfer Efficiency

A person shall not apply any Coating subject to the provisions of this rule, unless the Coating is applied with equipment properly operated according to the manufacturer's suggested guidelines, and using one of the following application methods:

(a) Electrostatic attraction; or

(b) High Volume Low Pressure (HVLP) spray equipment; or

(c) Dip coat; or

(d) Hand application methods; or

(e) Other Coating application methods as are demonstrated to have a transfer efficiency at least equal to method (C)(3)(b), and which are used in a manner that the parameters under which they were tested are permanent features of the method. Prior to their use, such alternative Coating application methods shall be approved in writing by the APCO.

(4) Prohibition of Specification

(a) No person shall solicit or require for use or specify the application of a Coating if such use or application results in a violation of the provisions of this rule. The prohibition of this subsection shall apply to all written or oral contracts under the terms of which any Coating which is subject to the provisions of this rule is to be applied to any marine vessel, or part or component at any physical location within the District.

(5) Prohibition of Sale

(a) A person shall not offer for sale or sell within the District any Coating that does not meet the VOC content limits, as set forth in Table 1 of this rule. The prohibition of this section shall apply to the sale of any Coating subject to this rule which will be applied at any physical location within the District, except those which are specifically exempted in Section (C) and (G) of this rule.

(6) Compliance Statement Requirement

(a) The manufacturer of Coatings subject to this rule shall include a designation of VOC, As Supplied, on data sheets; including Coating

components, expressed in grams per liter or pounds per gallon, excluding water and Exempt Compounds.

(7) Surface Preparation and Cleanup Solvent

(a) The requirements of this section shall apply to any person using solvent for surface preparation, cleanup, and paint removal, including paint spray equipment.

(b) A person shall not use VOC-containing materials for the cleanup of application equipment used in Coating operations subject to this rule, unless such material is collected in a closed container when not in use; and

(i) The application equipment is disassembled and cleaned in an enclosed system during the washing, rinsing and draining processes; and
(ii) 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 in the container until dripping ceases; and
(iii) VOC-containing material spills are minimized; and
(iv) VOC-containing materials are conveyed in closed containers or pipes.
(v) Other application equipment cleaning methods that are demonstrated to be as effective as the equipment described above in minimizing emissions of VOC to the atmosphere are used, provided that the device has been approved in writing prior to use, by the APCO.

(c) A person shall not use VOC-containing materials for surface preparation unless:

(i) The material contains 25 grams or less of VOC per liter of material (0.21 pounds per gallon); 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 20 mm Hg or less, at 20°C (68°F); or
(iv) The cleaning operation is performed within air pollution control equipment with a capture efficiency that meets the requirements of subsection (C)(1)(b).

(d) A person shall use closed, nonabsorbent containers for the storage of fresh or spent solvent, and disposal of cloth, paper, or any other absorbent material used for solvent surface preparation and cleanup.

(D) Monitoring and Records

(1) Coating Records

(a) Any person subject to Section (C) or claiming exemption under Section (G) shall comply with the following requirements:

(i) The person shall maintain and have available during an inspection, a current list of Coatings in use which provides all of the Coating data necessary to evaluate compliance, including the following information, as applicable:
1. Coating, catalyst, and reducer used.
2. Mix ratio of components used.
3. VOC content of Coating, As Applied.

(ii) The person shall maintain records on a daily basis including:
1. Coating and mix ratio of components used in the Coating; and
2. Quantity of each Coating applied.

(iii) The person shall maintain records on a daily basis showing the type and amount of solvent used for cleanup, surface preparation, and paint removal.

(b) Notwithstanding the provisions of subsection (D)(1)(a), a person or facility which exclusively uses Coating formulations compliant with subsection (C)(1)(a) may maintain usage records on a monthly basis.

(2) Compliance Assurance Monitoring

(a) Each Coating operation subject to subsection (C)(1) which is using air pollution control equipment to meet the control requirement shall:

(i) Utilize Compliance Assurance Monitoring, as approved by the APCO. Each monitoring device(s), mechanism and/or technique shall be calibrated/maintained as recommended by the manufacturer; and

(ii) Maintain and produce daily records of key system operating parameters and maintenance procedures which will demonstrate continuous operation and compliance of the air pollution control equipment during periods of emissions-producing activities. Key system operating parameters are those necessary to ensure compliance with VOC content of Coating requirements, such as temperatures, pressures and flow rates.

(b) Compliance with subsection (C)(1) shall be determined by compliance testing as prescribed in subsection (E)(2) and/or by evaluating Compliance Assurance Monitoring data.

(3) All records for the previous five (5) year period maintained and produced pursuant to this Section shall be retained and available for inspection by the APCO upon request.

(E) Compliance Procedures and Test Methods

(1) Calculation Methods

(a) Grams of VOC per Liter of Coating Less Water and Less Exempt Compounds shall be determined by the following equation:

$$G_v = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:

G_v	=	Grams of VOC per Liter of Coating Less Water and Less Exempt Compounds
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

(b) Grams of VOC per Liter of Material shall be determined by the following equation:

$$G_v = \frac{W_s - W_w - W_{es}}{V_m}$$

Where:

G_v	=	Grams of VOC Per Liter of Coating Less Water and Less Exempt Compounds
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

(c) Overall Control Efficiency shall be determined by the following equations

$$Capture\ Efficiency = \left(\frac{W_c}{W_e}\right) \times 100$$

Where: W_c = Weight of VOC entering control device
W_e = Weight of VOC emitted

$$Control\ Device\ Efficiency = \left(\frac{W_c - W_a}{W_c}\right) \times 100$$

Where: W_c = Weight of VOC entering control device
W_a = Weight of VOC discharged from the control device

$$CE = \frac{[(CaptureEfficiency)x(ControlDeviceEfficiency)]}{100}$$

(2) The following specified test methods shall be used to determine compliance with the provisions of this rule.

(a) Determination of VOC Content:

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

(i) USEPA Reference Method 24 – *Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings* (40 CFR 60, Appendix A) for VOC content, ASTM D4457–85 *Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph*, or CARB Method 432 – *Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings* for determination of Exempt Compounds. The Exempt Compound content shall be determined by SCAQMD Method 303-91 – *Determination of Exempt Compounds* contained in the SCAQMD *Laboratory Methods of Analysis for Enforcement Samples* manual; or,

(ii) SCAQMD Method 304-91 *Determination of Volatile Organic Compounds (VOC) in Various Materials* contained in the SCAQMD *Laboratory Methods 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 Section (C), only when manufacturers specify which individual compounds are used in the Coating formulation. In addition, the manufacturers shall identify the USEPA, California Air Resources Board (CARB), or other approved test methods used to quantify the amount of each Exempt Compound.

(iv) Determination of the initial boiling point of liquid containing VOC, subject to subsection (C)(1)(a), shall be conducted in accordance with ASTM D1078–86 *Standard Test Method for Distillation Range of Volatile Organic Liquids*.

(v) Calculation of total VOC vapor pressure for materials subject to subsection (C)(1)(a) shall be conducted in accordance with ASTM D2879–97 *Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope*. The fraction of water and Exempt Compounds in the liquid phase shall be determined by using ASTM D3792–91 *Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatography* and D4457–85 *Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph* and shall be used to calculate the partial pressure of water and Exempt Compounds. The results of vapor pressure measurements obtained using ASTM D2879–97 *Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope* shall be corrected for partial pressure of water and Exempt Compounds.

(vi) Measurement of solvent losses from alternative application cleaning equipment subject to (C)(7)(b)(v) shall be conducted in accordance with the SCAQMD *General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems* (10/03/89).

(b) Determination of Metal Content:

(i) The metal content in metallic Coatings subject to the provisions of this rule shall be determined by the SCAQMD Method 311-91 – *Determination of Percent Metal in Metallic Coatings by Spectrographic Method* contained in the SCAQMD*) Laboratory Methods of Analysis for Enforcement Samples* manual.

(c) Determination of Acid Content

(i) The acid content of Coating subject to the provisions of this rule shall be determined by ASTM D1613-96 *Standard Test Method for*

Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products.

(d) Determination of Efficiency of Air Pollution Control Equipment

(i) The Overall Control Efficiency of the collection device of the air pollution control equipment as specified in subsection (C)(1)(b) shall be determined by the USEPA method cited in 55 Federal Register 26865 (June 29, 1990), or any other method approved by USEPA, CARB, and the District.

(ii) The Overall Control Efficiency of the control device of the air pollution control equipment as specified in subsection (C)(1)(b) and the VOC content in the control device exhaust gases, measured and calculated as carbon, shall be determined by USEPA Test Methods 25 (*Determination of total gaseous nonmethane organic emissions as carbon*, 25A (*Determination of total gaseous organic concentration using a flame ionization analyzer*), or SCAQMD Method 25.1 (*Determination of Total Gaseous Non-Methane Organic Emissions as Carbon*) as applicable. USEPA Test Method 18 (*Measurement of gaseous organic compound emissions by gas chromatography*), or CARB Method 422 – *Determination of Volatile Organic Compounds in Emissions from Stationary Sources*, (*December 13, 1991*) shall be used to determine emissions of Exempt Compounds.

(e) Determination of Capture Efficiency

(i) Capture efficiency shall be determined according to the USEPA's technical document, *Guidelines for Determining Capture Efficiency* (01/9/95).

(f) Determination of Extreme High-Gloss and High-Gloss

(i) Gloss shall be determined by ASTM Method D523–89 *Standard Test Method for Specular Gloss*.

(g) Determination of Transfer Efficiency

(i) Demonstration of Transfer Efficiency of alternative application methods subject to subsection (C)(3)(e) shall be conducted in accordance with SCAQMD *Spray Equipment Transfer Efficiency Test Procedure for Equipment User* (05/24/89).

(3) All test methods referenced in this section shall be those incorporated by reference into the Federal Register or by USEPA for use in State Implementation Plan rules.

(4) Alternative Test Methods

(a) Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with any provisions of this rule may

also be used after review and approval in writing by the District, CARB and USEPA.

(F) Violations

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

(2) A violation of the limits contained in this rule as determined by any one of these test methods shall constitute a violation of this rule.

(3) When more than one (1) 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 this rule.

(G) Exemptions

The provisions of this rule shall not apply to:

(a) The use of Aerosol Coating Products.

(b) Facilities whose rate per day of Coating use is less than one (1) gallon, including any VOC-containing materials added to the original Coating, As Supplied, by the manufacturer. Only Coatings subject to this rule shall be included in the calculation of rate per day, or; Coating application operations that emit not more than three (3) pounds of VOC per day and not more than 200 pounds of VOC per calendar year.

(c) Marine Coatings applied to interior surfaces of potable water containers.

(d) Touch-Up Coatings.

See SIP Table at www.mdaqmd.ca.gov