

**REGULATION 8
ORGANIC COMPOUNDS
RULE 50**

**POLYESTER RESIN AND VINYL ESTER RESIN OPERATIONS
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**REGULATION 8
ORGANIC COMPOUNDS
RULE 50
POLYESTER RESIN OPERATIONS**

THERMOSETTING RESIN AND COMPOSITE MATERIAL OPERATIONS

(Adopted December 5, 1990)

8-50-100 GENERAL

8-50-101 Description: The purpose of this Rule is to limit organic compound emissions from the manufacturing, fabrication, rework, repair, and touch-up of composite products using made of polyester resins and other composite materials.

8-50-110 Limited Exemption, Touch-up, and Repair, and Installation: The requirements of Sections 8-50-301 shall not apply to touch-up, ~~and~~ repair, or the installation of composite products off-site from the manufacturing facility.

8-50-111 Exemption, Thermoplastic Resins: The requirements of this rule shall not apply to thermoplastic resins.

8-50-200 DEFINITIONS

8-50-201 Catalystizing Agent: A substance added to ~~the~~ a resin matrix to initiate or increase the rate of a chemical reaction such as polymerization. Catalyzing agents include, but are not limited to, peroxide catalysts, hardeners, amines, amides, and anhydrides.

8-50-202 Cleaning ~~Materials~~Products: Materials used to clean hands, tools, molds, application equipment, work area, and other process related equipment.

8-50-203 Closed-mold System: A system of forming ~~objects~~ composite products from ~~polyester resins~~ molding compounds, ~~by placing the material~~ Molding compound is placed in a confining cavity and ~~applying~~ pressure and/or heat is applied to shape the product. Compression molds and liquid-injection molds are examples of closed-mold systems.

~~**8-50-204 Control System:**~~ A control device and collection system designed in accordance with good engineering practices.

8-50-205 Corrosion-resistant ~~Materials~~ Resin: Thermosetting resins and composite materials that include, but which are not limited to ~~H~~halogenated, furan, bisphenol-A, Vinyl-ester, or isophthalic resins are used to make products for corrosive ~~or fire retardant services~~ applications.

8-50-206 Cross-linking: The ~~chemical~~ process of ~~joining~~ chemically linking two or more polymer chains ~~together~~ to create a three-dimensional or network polymer.

8-50-207 Fiberglass ~~Fiber Reinforcement Materials~~: ~~A fiber similar in appearance to wool or cotton fiber but made from glass. A multifilament material of glass or other fibrous material, such as carbon, boron, metal, kevlar, and amid polymer, that is used to reinforce plastic.~~

8-50-208 Gel Coat: ~~A polyester resin surface coating that provides a cosmetic enhancement and improves resistance to degradation from ultra-violet radiation and water or chemical absorption. A pigmented or clear resin material that functions as a surface coating to provide cosmetic enhancement, resistance to degradation, ultraviolet radiation, or water or chemical adsorption.~~

8-50-209 Inhibitor: A substance used to slow down or prevent a chemical reaction, such as polymerization.

8-50-210 Low-VOC Emission Resin ~~System~~: A polyester thermosetting resin material ~~which that~~ contains additives to reduce monomer evaporation loss.

8-50-211 Monomer: ~~A relatively low molecular weight organic compound that combines with itself or other similar compounds to become a polymerized thermosetting resin. A~~

- small molecule used as a cross-linking agent. Monomers partially combine with themselves or with other compounds chemically, to become part of a cured resin (polymer).
- 8-50-212 Polyester:** ~~A complex polymeric ester containing difunctional acids.~~ A synthetic, long-chain polymeric ester produced mainly by reaction of dibasic acids with dihydric alcohols.
- 8-50-213 Polyester Resins Material:** ~~Any VOC containing materials used in polyester resin operations which include, but are not limited, to unsaturated polyester resins such as isophthalic, orthophthalic, halogenated, bisphenol A, vinyl ester, or furan resins; cross-linking agents; catalysts, gel coats, inhibitors, accelerators, promoters, and any other VOC containing materials.~~ Resins used to fabricate products in composite material operations. Orthophthalic, isophthalic, dicyclopentadiene, and bisphenol A fumarate are polyester resins.
- 8-50-214 Polyester Resin and Vinyl Ester Resin Operations:** ~~Methods used for the production or rework of product by mixing, pouring, hand laying up, impregnating, injecting, forming, spraying, and/or curing unsaturated polyester materials with fiberglass, fillers, or any other reinforcement materials and associated clean-up.~~ The fabrication, rework, repair, or touch-up of composite products for commercial, military, or industrial use by mixing, pouring, hand laying-up, molding, impregnating, injecting, forming, spraying, pultrusion, filament winding, centrifugally casting, corn-forming with polyester resins and vinyl ester resins.
- 8-50-215 Polymer:** ~~A substance consisting of a large number of chemical groups and which is formed by the chemical linking of monomers.~~ Polymers, such as polystyrene and polypropylene, are chemical compounds that consist of a large number of repeating monomers.
- 8-50-216 Polymerize:** Transformation from a liquid to a solid or semi-solid state to achieve desired product physical properties, including hardness.
- 8-50-217 Repair:** ~~The part of the fabrication~~ A process that requires the addition of ~~polyester thermosetting resin or other composite~~ material to portions of a previously fabricated product in order to mend minor structural damage ~~immediately following normal fabrication operations.~~
- 8-50-218 Resin:** Any class of thermosetting or thermoplastic organic polymers of natural or synthetic origin used ~~in reinforced products to surround and hold fibers, to encapsulate and bind together reinforcement fibers and/or fillers in the formulation of composite products and is solid or semi-solid in the polymerized state.~~
- 8-50-219 Touch-up:** ~~The portion of the fabrication process~~ A resin application procedure that is necessary to cover ~~minor cosmetic~~ imperfections that occur either during fabrication or during field installations.
- 8-50-220 Volatile Organic Compound (VOC):** Any organic compound (excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate) ~~which that w~~ould be emitted during use, application, curing or drying of a ~~solvent cleaning product~~ or polyester resin and composite material operation.
- 220.1 For purposes of calculating the VOC content of a ~~polyester thermosetting resin material~~, any water or any of the following non-precursor organic compounds:
acetone
parachlorobenzotrifluoride (PCBTF)
cyclic, branched or linear completely methylated siloxanes (VMS)
shall not be considered to be part of the ~~polyester thermosetting resin material.~~
- 220.2 For the purposes of calculating the VOC content of a ~~solvent cleaning product~~ subject to Section 305.4, any water or any of the non-precursor organic compounds listed in subsection 8-50-220.1, shall be considered part of the ~~material volume, but shall not be considered to be part of the VOC content of the cleaning product.~~ The following compounds:
~~acetone
parachlorobenzotrifluoride (PCBTF)
cyclic, branched or linear, completely methylated siloxanes (VMS)~~

~~shall not be considered part of the VOC content of the solvent.~~

(Amended December 20, 1995; November 6, 1996)

- 8-50-221 Vapor Suppressant:** A substance that is added to resin to minimize the outward diffusion of monomer vapor into the atmosphere.
- 8-50-222 Waste Materials:** Materials including, but not limited to, any scrap resulting from cutting, drilling, and grinding operations; any paper or cloth used for cleaning operations; waste resins; non-polymerized waste resins; gel coats; fillers; curing agents; and any spent cleaning materials products.
- 8-50-223 Airless Spray:** Equipment used to apply materials by use of fluid pressure without atomizing air, including heated airless spray.
- 8-50-224 Air Assisted Airless Spray:** Equipment used to apply materials ~~that uses~~ by means of fluid pressure to atomize coating and air pressure at between 0.1 and 10 psig of air pressure in order to adjust the spray pattern.
- 8-50-225 High-Volume Low-Pressure (HVLP) Spray:** Equipment used to apply materials by means of a gun ~~which that~~ operates at between 0.1 and 10 psig of air pressure.
- 8-50-226 Electrostatic Air Spray:** Equipment used to apply materials by charging atomized coating particles that are deposited to a grounded substrate by electrostatic attraction.
- 8-50-227 Approved Emission Control System:** A system for reducing emissions of VOC to the atmosphere, consisting of a control device and a collection system ~~which that~~ achieves the overall abatement efficiency specified in ~~the applicable standards~~ sSection 8-50-303 at all times during operation of the equipment ~~being controlled~~.
(Adopted June 15, 1994)
- 8-50-228 Key System Operating Parameter:** An emission control system operating parameter, such as temperature, flow rate or pressure, that ensures operation of the abatement equipment within manufacturer specifications and compliance with the standard in Section 8-50-303.
(Adopted June 15, 1994)
- 8-50-229 Overall Efficiency:** The efficiency of an approved emission control system, measured by the collection system's efficiency multiplied by the destruction efficiency of the control device, expressed as a percentage.
- 8-50-230 Hand Lay-Up:** An open mold laminating process in which components of successive plies of resin-impregnated reinforcement materials are applied via a hand-application technique. The composite material is layered using a bucket and paint brush or a paint roller, or other hand-held method of application.
- 8-50-231 Injection Molding:** A high-volume method of forming an object from thermosetting resins by forcing material from an external heated chamber through a sprue, runner, or gate into a cavity of a closed mold by means of a pressure gradient.
- 8-50-232 Compression Molding:** A method of forming an object from thermosetting resin or other composite material in which a molding material is placed in an open, heated mold cavity. The mold is closed and pressure is applied to force the composite material into contact with all mold areas. Heat and pressure are maintained until the molding material has cured.
- 8-50-233 Pultrusion:** A continuous manufacturing process for composite products that have a uniform cross-sectional shape. Continuous strands of fiber-reinforcing material are pulled through a strand-tensioning device and into a resin impregnation chamber or bath and then through a shaping die, where the resin is subsequently cured by applying heat.
- 8-50-234 Primer Gel Coats:** A gel coat used to fabricate composite products that functions as a primer for subsequent coating after the de-molding process.
- 8-50-235 Resin Bath:** A tray or chamber that contains resin for a pultrusion or impregnating process.
- 8-50-236 Glass Fiber Reinforcements:** Composite reinforcing materials based on single filaments of glass with a variety of diameters. The filaments are gathered into bundles, commonly referred to as strands or rovings, and are used in continuous form or can be chopped into various lengths for incorporation into molding compounds or spray-up applications, or can be formed into fabrics and mats.
- 8-50-237 Specialty Gel Coats:** A gel coat that includes fire retardant, corrosion-resistant or high-strength materials.

- 8-50-238 Composite Materials:** Individual components that combined, make up the composite product. Composite materials include resins, gel coats, thinners, catalyzing agents, binders, fillers, reinforcement fibers, other reinforcement materials, and any other compound added to enhance the properties of the composite product.
- 8-50-239 Composite Products:** For the purposes of this Rule, composite products are products that are fabricated from thermosetting resins and composite materials.
- 8-50-240 Filler:** A non-reactive constituent of a composite product. Fillers include hollow glass spheres, fibers, particulates, clays, silicates, talcs, carbonates, carbon black, chalk, titanium dioxide, graphite, molybdenum disulfide, PTFE, barium sulfate, aluminum, and copper, and may impart properties such as color, magnetic, smoothness, lubrication, thermal or electric properties.
- 8-50-241 Fire Retardant Material:** A thermosetting resin or other composite material that is used to make composite products resistant to flame or fire.
- 8-50-242 Solid Surface Resins:** A resin containing fillers and additives and that is used primarily in the cast polymer segment of the composite industry. Solid surface resins are used to fabricate products that are non-porous and have a homogeneous composition throughout.
- 8-50-243 Tub/Shower Resins:** Resins used to fabricate tubs, showers, and bathware fixtures.
- 8-50-244 Lamination Resins:** Resins used in a composite system made up of layers of reinforcement fibers and resins, such as boats hulls, surfboards, and automotive panels. Orthophthalate, isophthalate and dicyclopentadiene resins are typically used as lamination resins.
- 8-50-245 Open-mold System:** A process of manufacturing composite products by applying composite materials in a one-sided cavity using hand lay-up, spray-up, and filament winding applications. The product being manufactured is exposed to the ambient air.
- 8-50-246 Thermoplastic Resins:** A resin that flows upon being subjected to heat and pressure and solidifies upon cooling without undergoing cross-linking. Thermoplastic resins may be re-heated and reshaped. Thermoplastic resins include polypropylenes, polyvinylchlorides, and polyethylenes.
- 8-50-247 Thermosetting Resins:** Resins that, when cured, polymerize (cross-link) and cannot be heated and reshaped. Thermosetting resins include, but are not limited to, unsaturated polyester resins, epoxy resins, vinyl ester resins, phenolic resins, and polyurethane resins.
- 8-50-248 Vinyl Ester Resins:** Resins used to fabricate products that are durable, resistant to organic solvents, and are resistant to water corrosion.
- 8-50-249 Molding Compounds:** Are VOC-containing composite fabrication materials that contain either short, randomly dispersed or continuous glass fibers, filler, and curing agent in a matrix of resin. Molding compound types include, but which are not limited to bulk or dough, sheet, high performance sheet, and very high performance sheet.
- 8-50-250 Nonatomizing Spray Gun:** An application technique in which resins or gel coats flow from the applicator, in a steady and observable coherent flow, without droplets, for a minimum distance of three (3) inches from the applicator orifices.
- 8-50-251 Other Resins (all other "clear gel coat" resins):** Resins which are used in clear gel coats to manufacture composite products.
- 8-50-252 Other Resins (non "clear gel coat"):** Resins which are used to manufacture composite products but are not used in clear gel coats.
- 8-50-253 High Strength Resins:** Resins which are used to manufacture composite products requiring a tensile strength of 10,000 psi or more for a minimal casting thickness of 1/8".
- 8-50-254 Hopper Spray Gun:** Equipment which uses high air pressure and an internal mix atomization process to apply a blend of thick, viscous, crushed or pulverized material mixed with resin or gel coat.
- 8-50-300 STANDARDS**
- 8-50-301 Process Material Requirements:** Until October 1, 2010, Aa polyester resin operation shall use one or more of the following emission reducing methods except as provided in Section 8-50-304:

- 301.1 Use polyester resin material with a monomer content of no greater than 35 percent by weight.
- 301.2 Use a resin containing vapor suppressant, such that weight loss from VOC emissions do not exceed 60 grams per square meter of exposed surface area during resin polymerization.
- 301.3 Use a closed-mold system.

Effective October 1, 2010, a person shall not use polyester resin or gel coat materials with a monomer content in excess of the limits specified in Table 1.

Table 1

| <u>Gel Coats and Resin Materials</u> | <u>Monomer Percentage by Weight as Applied</u> |
|---|---|
| <u>Gel Coat Materials</u> | |
| <u>Clear Gel Coats</u> | |
| <u>Marble Resins</u> | <u>40%</u> |
| <u>Boat Manufacturing Resins</u> | <u>48%</u> |
| <u>Other Resins (all other clear gel coat resins)</u> | <u>44%</u> |
| <u>Pigmented Gel Coats</u> | |
| <u>White and Off-White Gel Coats</u> | <u>30%</u> |
| <u>Non-White Boat Manufacturing Gel Coats</u> | <u>33%</u> |
| <u>Other Non-White Gel Coats</u> | <u>37%</u> |
| <u>Primer Gel Coats</u> | <u>28%</u> |
| <u>Specialty Gel Coats</u> | <u>48%</u> |
| <u>Resin Materials</u> | |
| <u>Marble Resins</u> | <u>10% or 32% (as supplied - no fillers*)</u> |
| <u>Solid Surface Resins</u> | <u>17%</u> |
| <u>Tub/Shower Resins</u> | <u>24% or 35% (as supplied - no fillers*)</u> |
| <u>Boat Manufacturing (atomized)</u> | <u>28%</u> |
| <u>Boat Manufacturing (non-atomized)</u> | <u>35%</u> |
| <u>Lamination Resins</u> | <u>31% or 35% (as supplied - no fillers*)</u> |
| <u>Fire Retardant Resins</u> | <u>38%</u> |
| <u>Corrosion Resistant and/or High Strength Resins</u> | |
| <u>Mechanical (non-atomizing)</u> | <u>46%</u> |
| <u>Filament Application</u> | <u>42%</u> |
| <u>Manual Application</u> | <u>40%</u> |
| <u>Other Resins (non "clear gel coat" resins)</u> | <u>35%</u> |

* As supplied by the manufacturer

8-50-302 ~~Spraying~~ Operations Application Requirements: Until October 1, 2010, Aa polyester resin operation using spray application equipment shall use one or more of the following spray equipment:

- ~~302.1~~ Airless Spray
- ~~302.2~~ Air-assisted Airless Spray
- ~~302.3~~ Electrostatic Spray
- ~~302.4~~ High-volume, Low-pressure Spray

302.1 Except for gel coats, effective October 1, 2010, an owner or operator of a polyester resin or a vinyl ester resin operation shall only apply resin materials to an open molding surface by one of the application methods prescribed below. An owner/operator shall operate the application equipment in accordance with the manufacturer's operating and maintenance specifications.

Non-atomizing spray application technique, as defined in Section 8-50-250;
Flowcoaters;
Pressure-Fed Rollers;
Resin Impregnators;
Hand Lay-up Applications; or,
Other non-atomizing application techniques accepted by CARB or U.S. EPA,
or otherwise approved in writing by the APCO, to have emission reduction
efficiencies equivalent to the techniques listed in this subsection 302.1.

302.2 Effective October 1, 2010, an owner or operator of a polyester resin or a vinyl ester resin operation shall only apply gel coat materials to an open molding surface by one of the application methods prescribed below. An owner/operator shall operate the application equipment in accordance with the manufacturer's operating and maintenance specifications.

Any non-atomizing application technique listed in Section 302.1:
Air-Assisted Airless Spray;
Electrostatic Attraction; or
HVLP Spray.

302.3 A polyester resin or vinyl ester resin operation may apply a blend of thick, viscous, crushed or pulverized materials mixed with resin or gel coat to an open mold with a hopper gun. Examples of crushed or pulverized materials include quartz, mineral, silica, or crushed stone, such as granite, marble or limestone.

302.4 Notwithstanding the application requirements set forth in Section 8-50-302, an owner or operator may perform polyester resin or vinyl ester resin product touch-up or repairs with gel coats or resins by using a hand-held spray gun, provided it operates with a container that is part of the gun with a maximum capacity of 1 quart.

8-50-303 Emission Control Requirement: The requirements of Sections 8-50-301 and 302 shall not apply to polyester resin operations provided all of the following requirements are met: ~~which install and properly operate an approved emission control system that meets the requirements of Regulation 2, Rule 1 and reduces organic compound emissions by at least 85 percent overall.~~

303.1 A District-approved emission control system is installed and properly operated;

303.2 The emission control system meets the requirements of Regulation 2, Rule1;

303.3 The capture efficiency is at least 85 percent on a mass basis; and,

303.4 The control efficiency is at least 85 percent on a mass basis.

(Amended June 15, 1994)

8-50-304 Corrosion-resistant Materials: Until October 1, 2010, Any polyester resin operation using corrosion-resistant materials to manufacture products for corrosive or fire

retardant service shall use a polyester resin material with a monomer content of no greater than 50 percent by weight.

8-50-305 Surface Preparation and Clean-uping SolventProducts: The requirements of this section shall apply to any polyester resin and vinyl ester resin operation using ~~organic solvent-cleaning products~~ for surface preparation and the clean-uping of application equipment, machinery, tools, parts, products, and general working areas.

305.1 ~~A-p~~Polyester resin and vinyl ester resin operations shall use closed containers for the storage of all ~~polyester~~ resin materials, gel coats, catalysts, resin thinners, cleaning ~~materials products~~ and any unused VOC-containing materials except when accessed for use.

305.2 ~~A-p~~Polyester resin and vinyl ester resin operations shall use self-closing containers for the disposal of all ~~polyester~~ resin materials, cleaning ~~materials products, resin thinners,~~ waste materials, and any unused VOC containing materials in such a manner as to effectively control VOC emissions to the atmosphere.

305.3 ~~A-p~~Polyester resin and vinyl ester resin operations shall not use ~~organic compounds-cleaning products for-the to~~ clean-up-of spray equipment including spray lines unless equipment for collecting the cleaning product material and minimizing their evaporation to the atmosphere is used.

305.4 Effective October 1, 2010, A polyester resin and vinyl ester resin operations shall use cleaning ~~materials products~~ that contain no greater than ~~200~~ 25 grams of VOC per liter of material.

306.5 Polyester resin and vinyl ester resin operations may use a single, small sink-on-a-drum parts washer, in which the used cleaning product drains into the drum below, to clean tools and application equipment. When the sink is not actively used, it must be closed at all times with no visible gap. The maximum internal dimensions for the open sink may not exceed 8 inches in height, 32 inches in width, and 21 inches in depth.

8-50-306 Equipment Requirements: ~~All-resin baths shall be covered to reduce organic compound emissions.~~ An owner or operator of a polyester resin or vinyl ester resin operation shall keep resin baths and wet-out baths closed at all times, except when in use. Pultrusion operations shall not be performed unless wet-out baths are covered, except for 18 inches from the exit of the bath to the die.

An owner or operator shall keep in closed containers all resins, gel coats, and all other VOC-containing materials used in polyester resin and vinyl ester resin operations, except when filling or emptying the containers.

8-50-307 Gel Coat Requirement: Until October 1, 2010, ~~A person~~ an owner or operator of a polyester resin operation shall not use a gel coat which contains more than 250 grams of volatile compounds per liter of coating applied.

8-50-308 Prohibition of Specification Requirement: An owner or operator shall not allow the application of or the use of polyester resins or gel coats, or parts or components thereof, if such use or application results in a violation of the provisions of this rule.

8-50-309 Compliance Statement Requirement: Manufactured composite materials subject to the provisions of this rule shall include a designation of percent monomer by weight (as supplied) or VOC (as supplied) on data sheets, including material components, expressed in grams per liter or pounds per gallon, excluding water and exempt compounds.

8-50-500 MONITORING AND RECORDS

8-50-501 Recordskeeping Requirements: ~~Any-p~~Polyester resin and vinyl ester resin composite operations shall comply with the following recordkeeping requirements, ~~as applicable:~~

501.1 Maintain a current list of gel coats, resins, resin thinners, catalysts, and cleaning ~~material products~~ used.

501.2 Maintain a current list of: ~~the weight of VOC (in percent) in the polyester resin materials and the grams of VOC per liter for the cleaning materials.~~

- a. the percent monomer (by weight) for polyester resins, vinyl ester resins, gel coats, and resin thinners used.
 - b. the grams of VOC per liter for the cleaning products used; and,
 - c. the type of nonatomizing, or other in the case of gel coats, application technique(s) used, manufacture's name, and the records of the fluid tip pressure calibration as specified by the manufacturer.
- 501.3 For vapor suppressed resins, maintain a current list of the weight loss (grams per square meter) during resin polymerization, the monomer percentage, and the gel time for each resin.
- 501.4 Maintain records on a daily basis that provide the following information ~~as applicable:~~
- a. the type and amount of ~~each of the~~ polyester resin, gel coat, and cleaning ~~materials products~~ used; and the weight (in percent) of monomer for all polyester resins, vinyl ester resins, gel coats, and filler(s). If VOC-containing materials (such as resin thinners) are added to a polyester resin or gel coat, the amount shall be recorded in grams, and the VOC content in grams per liter~~;~~.
 - ~~b. the volume of resin and cleaning materials used for touch-up and repair.~~
 - b. certification of analysis from the resin and gel coat manufacturer(s) to verify that all applied tub/shower resin and gel coat materials are vapor suppressed; and,
 - c. for closed-mold and pultrusion systems, the weight loss (in percent) of thermosetting resin, gel coat, or other composite materials for each application.

Alternatively, records may be kept on a monthly basis provided the polyester resin and vinyl ester resin operations, or equipment, is not subject to a daily production limit or daily VOC limit in any District rule(s) or permit(s).

- 501.5 ~~Such records shall be retained and available for inspection by the APCO for the previous 24-month period.~~ The owner or operator shall retain and make available for inspection by the APCO upon request, for the previous 36-month period, all records and lists required in Section 501.

8-50-502 Approved Emission Control System, Recordkeeping Requirements: Any person operating an approved emission control system to comply with Section 8-50-303 shall record key system operating parameters on a daily basis.

(Adopted June 15, 1994)

8-50-600 MANUAL OF PROCEDURES

8-50-601 Analysis of Samples: ~~S~~samples from polyester resin operations shall be analyzed as follows:

- 601.1 Samples of gel coat as specified in Sections 8-50-307 shall be analyzed as prescribed in the Manual of Procedures, Volume III, Method 26.
- 601.2 Samples of cleaning ~~materials products~~ as specified in Section 8-50-305.4 shall be analyzed as prescribed in the Manual of Procedures, Volume III, Method 31 or by South Coast Air Quality Management District Laboratory Method 313-91.
- 601.3 Samples of polyester resin material as specified in Sections 8-50-301 and 304 shall be analyzed as prescribed in the Manual of Procedures, Volume III, Method 23: Determination of Volatile Emissions From Polyester Resins, or Method 39: Determination of Styrene Monomer Content of Polyester Resin Material, or by South Coast Air Quality Management District Laboratory Method 312-91.
- 601.4 Samples containing parachlorobenzotrifluorides shall be analyzed as prescribed in the Manual of Procedures (MOP), Vol. III, Method 41. Samples containing volatile methylsiloxanes shall be analyzed as prescribed in the MOP, Vol. III, Method 43. The quantity of methyl acetate,

acetone, parachlorobenzotriflouride shall be determined by using ASTM Method D6133-02: "Standard Test Method for Acetone, p-Chlorobenzotrifluoride, Methyl Acetate or t-Butyl Acetate Content of Solventborne and Waterborne Paints, Coatings, Resins, and Raw Materials by Direct Injection Into a Gas Chromatograph."

(Amended November 6, 1996)

8-50-602 Determination of Emissions: Emissions from polyester resin operations as specified in Section 8-50-303 shall be analyzed as prescribed by any of the following methods: 1) BAAQMD Manual of Procedures, Volume IV, ST-7, 2) EPA Method 25 or 25A. For the purpose of determining abatement device efficiency, any acetone, PCBTF or VMS shall be included as volatile organic compounds. A source shall be considered in violation if the VOC emissions measured by any of the referenced test methods exceed the standards of this rule.

(Amended June 15, 1994; November 6, 1996)