

Agenda Date: June 21, 2012  
Agenda Placement: Regular  
Estimated Time: 10 min  
Continued Item: No

## Board Agenda Item

TO: Air Pollution Control District Board

FROM: Dave Van Mullem, Air Pollution Control Officer

CONTACT: Douglas Grapple

SUBJECT: Adoption of Amended Rules 102, 202, 321, 330, 337, 349, and 353

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### RECOMMENDATION:

That the Board:

- A. Hold a public hearing to receive testimony on the proposed amended Rule 102 (Definitions), Rule 202 (Exemptions to Rule 201), Rule 321 (Solvent Cleaning Machines and Solvent Cleaning), Rule 330 (Surface Coating of Metal Parts and Products), Rule 337 (Surface Coating of Aerospace Vehicles and Components), Rule 349 (Polyester Resin Operations), and Rule 353 (Adhesives and Sealants).
- B. Approve the Resolution attached to this Board Letter. Approval of the Resolution will result in the following actions:
  1. CEQA Findings: Adopt the CEQA Findings (Attachment 1) pursuant to the California Environmental Quality Act (CEQA) and the CEQA guidelines.
  2. Rule Findings: Adopt the associated Rule Findings (Attachment 2) in support of the proposed rule amendments pursuant to Health and Safety Code Section 40727 regarding necessity, authority, clarity, consistency, nonduplication, and reference. The Rule Findings also acknowledge public comments on the proposed rule amendments and adopt the responses to public comments as findings of the Board (See Attachment 3).
  3. Rule Amendments: Adopt proposed amended rules (Attachment 4).

## EXECUTIVE SUMMARY:

Rules 330, 337, 349, and 353 are proposed for amendment to include solvent cleaning provisions similar to those added to Rule 321, Solvent Cleaning Machines and Solvent Cleaning, in September 2010. The solvent cleaning provisions include use of low emission materials, operating methods, and work practices to reduce emissions of reactive organic compounds. Some of the coating limits and the polyester resin material monomer content limits are being changed to reflect those found in USEPA Control Techniques Guideline documents or other California air district rules. Changes to other rule provisions (e.g., exemptions, definitions, recordkeeping, annual reports) are also proposed to facilitate rule implementation and to address comments from stakeholders.

Rule 102 is proposed for amendment to include definitions that are relevant to the proposed rule amendments. The District proposes minor Rule 202 changes primarily to update test method specifications. A slight amendment to the Rule 321.B.6 is necessary to clarify that the *solvent cleaning machine* requirements of Rule 321 apply when facilities subject to an operation-specific rule (e.g., 330, 337, 349, or 353) are using a degreaser.

## DISCUSSION:

### Objectives:

To help attain and maintain state and federal ozone standards, the District needs to adopt the rule amendments. Once adopted, the District will submit all seven rules for 1) inclusion into the State Implementation Plan, and 2) an Outer Continental Shelf Rule (40 CFR 55) consistency update.

### Background:

The District committed to incorporating solvent cleaning provision in several rules in a number of Clean Air Plans, including the most recent Clean Air Plan adopted by the Board on January 20, 2011. In September 2010, the Board adopted revisions to Rule 321, Solvent Cleaning Machines and Solvent Cleaning to fulfill past CAP commitments. The District is now proposing to add solvent cleaning provisions that are similar to those in Rule 321 to four operation-specific rules.

Amended Rules 330, 349, and 353 will limit the cleaning solvent reactive organic compound content to 25 grams per liter. Rule 337 will limit the solvent reactive organic compound content to 200 grams per liter or require the solvent to have a reactive organic compound composite partial pressure of 45 millimeters of mercury at 20 degrees Celsius.

### Implications to the Regulated Community:

The rule revisions will cause impacts to the regulated community by:

1. Expanding the scope of applicability of the rules to include 1) solvent cleaning that is associated with the operation-specific rules, and 2) solvents that contain toxic air contaminants.
2. Requiring changes to the methods of operation to comply with the new solvent cleaning requirements (e.g., use of enclosed cleaning systems when performing solvent cleaning of application equipment).

3. Lowering the reactive organic compound (ROC) content limits on Rule 349 polyester resin materials and three Rule 337 coating categories.
4. Increasing recordkeeping provisions.

Emission Reductions and Cost Effectiveness:

The overall ROC emission reduction from modifying Rules 330, 337, 349, and 353 is about 8 tons per year. The cost-effectiveness ranges from a cost savings of \$5,308 per ton to a cost of \$4,744 per ton of ROC reduced.

Implications to the APCD Budget:

The amended rules could result in permit application submittals in very limited cases. Current staffing levels should be sufficient to cover any new permit applications, ongoing inspections, and industry outreach efforts.

Public Review:

The District held several workshops and stakeholder meetings on these rule amendments. The Community Advisory Council (CAC) was consulted on the project two times. At the CAC meeting on April 11, 2012, the CAC voted to recommend that the Board adopt the proposed amended rules. The District published a public notice of the Board hearing to adopt the proposed amended rules on May 20, 2012.

California Environmental Quality Act (CEQA):

Pursuant to Section 15168 (c) of the State California Environmental Quality Act (CEQA) Guidelines, the proposed amended rules were examined in the light of the program EIR for the 2010 Clean Air Plan. The APCD determined that preparation of a CEQA Addendum to the existing environmental document is appropriate. CEQA Findings to be adopted by the APCD Board are provided in Attachment 1. Any subsequent changes to the project description will necessitate additional environmental review under the CEQA.

Concurrences:

County Counsel has reviewed this Board Letter and its attachments and approves them as to form.

## SPECIAL INSTRUCTIONS:

After adoption by the Board, please have the Board Chair sign the attached resolution and return a copy along with a copy of the minute order to Douglas Grapple of the Air Pollution Control District.

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### Attachments

#### Resolution

Attachment 1 - CEQA Findings

Attachment 2 - Rule Findings

Attachment 3 - Public Comments and Responses to Public Comments

Attachment 4 - Proposed Amended Rule 102, Definitions; Rule 202, Exemptions to Rule 201; Rule 321, Solvent Cleaning Machines and Solvent Cleaning; Rule 330, Surface Coating of Metal Parts and Products; Rule 337, Surface Coating of Aerospace Vehicles and Components; Rule 349, Polyester Resin Operations; and Rule 353, Adhesives and Sealants

Attachment 5 - Staff Report (On Compact Disc - Hard Copy Available Upon Request)

Attachment 6 - Environmental Review and Addendum to 2010 Clean Air Plan EIR

Attachment 7 - Final Environmental Impact Report for the 2010 Clean Air Plan (On Compact Disc - Hard Copy Available Upon Request)

## BOARD RESOLUTION

### PROPOSED AMENDED RULES:

- 102 (DEFINITIONS),
- 202 (EXEMPTIONS TO 201),
- 321 (SOLVENT CLEANING MACHINES AND SOLVENT CLEANING)
- 330 (SURFACE COATING OF METAL PARTS AND PRODUCTS,
- 337 (SURFACE COATING OF AEROSPACE VEHICLES AND COMPONENTS,
- 349 (POLYESTER RESIN OPERATIONS, AND
- 353 (ADHESIVES AND SEALANTS)

June 21, 2012

Santa Barbara County Air Pollution Control District

260 San Antonio Road, Suite A  
Santa Barbara, California 93110

(805) 961-8800



**RESOLUTION OF THE AIR POLLUTION  
CONTROL DISTRICT BOARD OF THE COUNTY OF  
SANTA BARBARA, STATE OF CALIFORNIA**

<b>In the Matter of</b>	)	<b>APCD Resolution No.</b>
	)	
<b>Adopting Amended Rules 102, 202, 321,</b>	)	
<b>330, 337, 349, and 353</b>	)	
_____	)	

**RECITALS**

1. The Air Pollution Control District Board of the County of Santa Barbara (“Board”) is authorized to adopt, amend, or repeal rules and regulations pursuant to Health and Safety Code section 40725 *et seq.*

2. Pursuant to Health and Safety Code section 40001, the Board is required to adopt and enforce rules and regulations to achieve and maintain the state and federal ambient air quality standards.

3. The Board has determined that a need exists to amend Rule 102 (Definitions), Rule 202 (Exemptions to Rule 201), Rule 321 (Solvent Cleaning Machines and Solvent Cleaning), Rule 330 (Surface Coating of Metal Parts and Products), Rule 337 (Surface Coating of Aerospace Vehicles and Components), Rule 349 (Polyester Resin Operations), and Rule 353 (Adhesives and Sealants). The amendments to Rule 102 provide new and revised definitions that apply to the entire rule book. The amendments to Rule 202 provide revised exemptions from the permitting requirements in Rule 201 (Permits Required). The amendment to Rule 321 clarifies that the exemption does not apply to solvent cleaning machines when an operation-specific rule

indicates such equipment is subject to Rule 321. The amendments to Rules 321, 330, 337, 349, and 353 implement the 2010 Clean Air Plan proposed control measures R-SL-2, R-SC-2, R-SL-5, and R-SL-9 for controlling reactive organic compound emissions.

**NOW, THEREFORE, IT IS HEREBY RESOLVED THAT:**

1) This Board has held a hearing and accepted public comments in accordance with the requirements of Health and Safety Code section 40725 *et seq.*

2) The Board hereby finds that it has reviewed and considered the Addendum (Attachment 6) along with the certified final adopted 2010 Clean Air Plan Environmental Impact Report (Attachment 7) prior to the approval of the Addendum and that the approval of the Addendum reflects the Board's independent judgment and analysis.

3) The California Environmental Quality Act ("CEQA") findings set forth in Attachment 1 of the Board Package dated June 21, 2012 (herein after "Board Package") are hereby adopted as findings of this Board pursuant to CEQA and the CEQA guidelines.

4) The general rule findings, as set forth in Attachment 2 of the Board Letter, are hereby adopted as findings of this Board pursuant to Health and Safety Code section 40727.

5) The Responses to Public Comments, as set forth in Attachment 3 of the Board Package are hereby adopted as findings of this Board.

6) The amendments to Rules 102, 202, 321, 330, 337, 349, and 353 as set forth in Attachment 4 of the Board Package are hereby adopted as rules of the Santa Barbara County Air Pollution Control District pursuant to Health and Safety Code section 40725 *et seq.*

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6) The Board authorizes the Control Officer to transmit Rules 102, 202, 321, 330, 337, 349, and 353 to the State Air Resources Board in compliance with applicable state and federal law. Additionally, the Board authorizes the Control Officer to do any other acts necessary and proper to obtain necessary approvals of the amended rules by the California Air Resources Board and the United States Environmental Protection Agency.

**PASSED AND ADOPTED** by the Air Pollution Control District Board of the County of Santa Barbara, State of California, this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

**ATTEST:**

Louis D. Van Mullem, Jr.  
Clerk of the Board

By \_\_\_\_\_  
Deputy

\_\_\_\_\_  
Chair, Air Pollution Control  
District Board of the County of  
Santa Barbara

**APPROVED AS TO FORM:**

DENNIS A. MARSHALL  
SANTA BARBARA COUNTY COUNSEL

By \_\_\_\_\_  
Deputy

Attorneys for the Santa Barbara County  
Air Pollution Control District



# ATTACHMENT 1

## CEQA FINDINGS

### PROPOSED AMENDED RULES:

- 102 (DEFINITIONS),
- 202 (EXEMPTIONS TO 201),
- 321 (SOLVENT CLEANING MACHINES AND SOLVENT CLEANING)
- 330 (SURFACE COATING OF METAL PARTS AND PRODUCTS,
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## **ATTACHMENT 1**

### **CEQA FINDINGS**

The Board finds that:

- The potential environmental impacts of these rule amendments were found to be adequately described and analyzed in the 2010 Clean Air Plan Environmental Impact Report (State Clearinghouse No. 2010071014, dated January 2011) and the Addendum prepared for this project.
- The adoption and implementation of amended Rules 102, 202, 321, 330, 337, 349, and 353 will not have significant adverse impacts on the environment.
- No relaxation in meeting ambient air quality standards for ozone will result. No cross-media impacts were identified.
- Pursuant to § 15164 of the State California Environmental Quality Act Guidelines, no new effects will occur and no new mitigation measures are required beyond those considered in the 2010 Clean Air Plan Environmental Impact Report.



## ATTACHMENT 2

### RULE FINDINGS

#### PROPOSED AMENDED RULES:

- 102 (DEFINITIONS),
- 202 (EXEMPTIONS TO 201),
- 321 (SOLVENT CLEANING MACHINES AND SOLVENT CLEANING)
- 330 (SURFACE COATING OF METAL PARTS AND PRODUCTS,
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## **ATTACHMENT 2**

### **RULE FINDINGS FOR PROPOSED AMENDED RULES 102, 202, 321, 330, 337, 349, AND 353**

Pursuant to California Health and Safety Code Section 40727, the Board makes the following findings for the adoption of proposed amendments to Rule 102, Definitions; Rule 202, Exemptions to Rule 201; Rule 321, Solvent Cleaning Machines and Solvent Cleaning; Rule 330, Surface Coating of Metal Parts and Products; Rule 337, Surface Coating of Aerospace Vehicles and Components; Rule 349, Polyester Resin Operations; and Rule 353, Adhesives and Sealants.

#### Necessity

The Board determines that it is necessary to adopt proposed amendments to Rules 102, 202, 321, 330, 337, 349, and 353 to fulfill the commitment in the 2010 Clean Air Plan to implement proposed control measures R-SL-2, R-SC-2, R-SL-5, and R-SL-9 for controlling reactive organic compounds.

#### Authority

The Board is authorized under state law to adopt, amend, or repeal rules and regulations pursuant to Health and Safety Code Section 40000, and 40725 through 40728 which assigns to local and regional authorities the primary responsibility for the control of air pollution from all sources other than exhaust emissions from motor vehicles. Additionally, pursuant to Health and Safety Code Section 40702, the District Board is required to adopt rules and regulations and to do such acts as are necessary and proper to execute the powers and duties granted to it and imposed upon it by State law.

#### Clarity

The Board finds that the proposed amended Rules 102, 202, 321, 330, 337, 349, and 353 are sufficiently clear. The rules were publicly noticed, and reviewed by the Community Advisory Council. The rules are written or displayed so that persons directly affected by them can easily understand their meaning.

#### Consistency

The Board determines that the adoption of proposed amended Rules 102, 202, 321, 330, 337, 349, and 353 is consistent with, and not in conflict with or contradictory to, existing federal or state statutes, court decisions, or regulations with regard to control of reactive organic compounds from solvent cleaning machines, surface coating of metal parts and products, surface coating of aerospace vehicles and components, polyester resin operations, and adhesives and sealants and solvent cleaning associated with those operations.

The neighboring air pollution control districts include the Ventura County Air Pollution Control District, San Luis Obispo County Air Pollution Control District, and the San Joaquin Valley Unified Air Pollution Control District. Except for the San Luis Obispo County Air Pollution

Control District, which does not have aerospace, polyester resin, or adhesives/sealant rules, our neighboring air pollution control districts have adopted similar rule requirements to those proposed in amended Rules 102, 202, 321, 330, 337, 349, and 353. Based on this evidence, the Board finds that the rules are consistent with neighboring air pollution control districts.

#### Nonduplication

The Board finds that the adoption of the proposed amendments to Rules 102, 202, 321, 330, 337, 349, and 353 do not impose the same restrictions as any existing state or federal regulation, and the proposed rules are necessary and proper to execute the powers and duties granted to, and imposed upon, the District.

#### Reference

The Board finds that we have authority under state law to adopt proposed amended Rules 102, 202, 321, 330, 337, 349, and 353 pursuant to Health and Safety Code Section 39002, which assigns to local and regional authorities the primary responsibility for the control of air pollution from all sources other than exhaust emissions from motor vehicles. Additionally, pursuant to Health and Safety Code Section 40702, the Board is required to adopt rules and regulations and to do such acts as are necessary and proper to execute the powers and duties granted to it and imposed upon it by state law.

#### Public Comment

#### Response to Comments

The Board has reviewed the responses to public comments included in Attachment 3 and hereby approves those responses to comments as findings.

## ATTACHMENT 3

### PUBLIC COMMENTS AND RESPONSES TO PUBLIC COMMENTS

#### PROPOSED AMENDED RULES:

- 102 (DEFINITIONS),
- 202 (EXEMPTIONS TO 201),
- 321 (SOLVENT CLEANING MACHINES AND SOLVENT CLEANING)
- 330 (SURFACE COATING OF METAL PARTS AND PRODUCTS,
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### **ATTACHMENT 3**

#### **PUBLIC COMMENTS AND RESPONSES TO PUBLIC COMMENTS**

*[The pre-Board Hearing public comment period will commence on May 20, 2012. The public notice for the June 21, 2012 Board Hearing indicates that comments are requested to be submitted by June 5 to provide time to prepare a response before the public hearing. Public comments received during the May 20 - June 21, 2012 timeframe will be included herein or in an errata to the Board Package or addressed verbally at the Board Hearing. The Board Package docket date is June 6.]*

**Comments from [Name of  
Company/Agency], Dated [Date]**

**[COMMENT 1]**

**[RESPONSE TO COMMENT 1]**



## ATTACHMENT 4

### PROPOSED AMENDED RULES:

- 102 (DEFINITIONS),
- 202 (EXEMPTIONS TO 201),
- 321 (SOLVENT CLEANING MACHINES AND SOLVENT CLEANING)
- 330 (SURFACE COATING OF METAL PARTS AND PRODUCTS,
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## ***Attachment 4***

### ***Proposed Amended Rule Text***

[Proposed amended rule text is provided in strikeout and underlined format. Strikeout indicates text proposed for deletion. Unless otherwise noted, underlined text indicates proposed new text.]



**RULE 102. DEFINITIONS.** (Adopted 10/18/1971, revised 1/12/1976, readopted 10/23/1978, revised 7/11/1989, 7/10/1990, 7/30/1991, 7/18/1996, 4/17/1997, 1/21/1999, 5/20/1999, 6/19/2003, 1/20/2005, 6/19/2008, 1/15/2009, 9/20/2010, 1/20/2011, ~~and~~ 3/17/2011, and [date of amended rule adoption])

These definitions apply to the entire rulebook. Definitions specific to a given rule are defined in that rule or in the first rule of the relevant regulation. Except as otherwise specifically provided in these Rules where the context otherwise indicates, words used in these Rules are used in exactly the same sense as the same words are used in Division 26 of the Health and Safety Code.

[. . .]

**“Aerosol Product”** means a hand-held, non-refillable container that expels pressurized product by means of a propellant-induced force.

[. . .]

**“Avionic Equipment”** means any electronic system used on any aircraft, aerospace vehicle, satellite, or space vehicle.

[. . .]

**“Capture Efficiency”** means the percentage by weight of affected pollutants delivered to a control device divided by the weight of total affected pollutants generated by the source.

[. . .]

**“Carbon Adsorber”** means a bed of activated carbon into which an air-solvent gas-vapor stream is routed and which adsorbs the solvent on the carbon.

[. . .]

**“Catalytic Incinerator”** means any device that burns reactive organic compounds or toxic air contaminants in air using a material that increases the rate of combustion without itself undergoing a net chemical change in the process. Common catalyst materials include but are not limited to, platinum alloys, chromium, copper oxide, and cobalt.

[. . .]

**“Control Device”** means any destruction and/or recovery equipment used to destroy or recover affected pollutant emissions generated by a regulated operation.

**“Control Device Efficiency”** means the percentage of affected pollutants entering a control device that is not present in the exhaust to the atmosphere of that control device.

[. . .]

**“Electronic Components”** means the portions of an assembly, including, but not limited to: circuit card assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, magnetic tapes and tape drive mechanisms, discs and disc drive mechanisms, electro-optical devices (e.g., optical filters, sensor assemblies, infrared sensors, charged coupled devices, thermal electric coolers, and vacuum assemblies), solid state components, semiconductors (e.g., diodes, zeners, stacks, rectifiers, integrated microcircuits, transistors, solar cells, light sensing devices, and light-emitting devices), and other electrical fixtures, except for the actual cabinet in which the components are housed.

**“Electrostatic Spray”** means any method of applying a spray coating in which an electrical charge is applied to the coating and the substrate is grounded. The coating is attracted to the substrate by the electrostatic potential between them.

[. . .]

**“Enclosed Cleaning System”** means any application equipment cleaner (e.g., an enclosed gun washer) that totally encloses spray guns, cups, nozzles, bowls, and other parts during solvent washing, rinsing, and draining procedures. An enclosed cleaning system for cleaning application equipment is not a solvent cleaning machine.

[. . .]

**“Exempt Compound”** means any compound listed as an exempt compound in the definition of “Reactive Organic Compound.” Tertiary-butyl acetate (also known as t-butyl acetate or tBAC) shall be considered exempt as a reactive organic compound only for purposes of reactive organic compound emissions limitations or reactive organic compound content requirements and shall be considered a reactive organic compound for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling, and inventory requirements which apply to reactive organic compounds.

[. . .]

**“Fluid System”** means a power transmission system that uses the force of flowing liquids and gases to transmit power. Fluid systems include hydraulic systems and pneumatic systems.

**“Fluorinated Gases”** means a compound that contains fluorine and exists in a gaseous state at 25 degrees Celsius and 1 atmosphere of pressure. Fluorinated gases include, but are not limited to:

1. hexafluoroethane (C<sub>2</sub>F<sub>6</sub>), (CFC-116),
2. octafluoropropane (C<sub>3</sub>F<sub>8</sub>), (PFC 218),
3. octafluorocyclopentene (C<sub>5</sub>F<sub>8</sub>), (PFC C-1418),
4. tetrafluoromethane (CF<sub>4</sub>), (CFC-14),
5. trifluoromethane (CHF<sub>3</sub>), (HFC-23),
6. difluoromethane (CH<sub>2</sub>F<sub>2</sub>), (HFC-32),
7. octafluorocyclobutane (c-C<sub>4</sub>F<sub>8</sub>), (RC 318),
8. octafluorotetrahydrofuran -(C<sub>4</sub>F<sub>8</sub>O),
9. hexafluoro-1,3-butadiene (C<sub>4</sub>F<sub>6</sub>),
10. carbon fluoride oxide (COF<sub>2</sub>),
11. nitrogen trifluoride (NF<sub>3</sub>), and
12. sulfur hexafluoride (SF<sub>6</sub>).

[. . .]

**“Grams of Reactive Organic Compound Per Liter of Material”** means the weight of reactive organic compound per volume of material and can be calculated by the following equation:

$$\text{Grams of reactive organic compounds per liter of material} \equiv \frac{W_s - W_w - W_e}{V_m}$$

Where:

$W_s$	=	Weight of volatile compounds in grams
$W_w$	=	Weight of water in grams
$W_e$	=	Weight of exempt compounds in grams
$V_m$	=	Volume of material in liters

[. . .]

**“High-Precision Optics”** means any optical element used in an electro-optical device that is designed to sense, detect, or transmit light energy, including specific wavelengths of light energy and changes in light energy levels.

[. . .]

**“Natural Draft Opening”** means any opening in a room, building, or total enclosure that remains open during operation of the facility and that is not connected to a duct in which a fan is installed. The rate and direction of the natural draft through such an opening is a consequence of the difference in pressures on either side of the wall containing the opening.

[. . .]

**“Operating Parameter Value”** means any minimum or maximum value established for a control equipment or process parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has continued to comply with an applicable emission limitation.

[. . .]

**“Overall Efficiency”** means the emission reduction, expressed as a percentage that results from the combined effect of capture and control of affected pollutants (capture efficiency multiplied by control efficiency).

[. . .]

**“Photoresist Coating”** means any coating applied directly to a substrate to protect surface areas when chemical milling, etching, or other chemical surface operations are performed on the substrate.

[. . .]

**“Reactive Organic Compound”** means any compound containing at least one (1) atom of carbon, except for the following exempt compounds:

1. acetone
2. ammonium carbonate
3. carbon dioxide
4. carbon monoxide
5. carbonic acid
6. dimethyl carbonate
7. ethane
8. metallic carbides or carbonates
9. methane
10. methyl acetate
11. methyl chloroform (1,1,1-trichloroethane)
12. methyl formate;  $\text{HCOOCH}_3$
13. cyclic, branched, or linear completely methylated siloxane compounds
14. methylene chloride
15. parachlorobenzotrifluoride
16. perchloroethylene (tetrachloroethylene)
17. the following four classes of perfluorocarbon (PFC) compounds:
  - a. cyclic, branched, or linear, completely fluorinated alkanes,
  - b. cyclic, branched, or linear, completely fluorinated ethers with no unsaturations,

- c. cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations, and
- d. sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

18. propylene carbonate

19. tertiary-butyl acetate; C<sub>6</sub>H<sub>12</sub>O<sub>2</sub> (“acetic acid, 1,1-dimethylethyl ester”)

Tertiary-butyl acetate (also known as t-butyl acetate or tBAC) shall be considered exempt as a reactive organic compound only for purposes of reactive organic compound emissions limitations or reactive organic compound content requirements and ~~will continue to shall~~ be considered a reactive organic compound for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling, and inventory requirements which apply to reactive organic compounds.

20. CFC-11 (trichlorofluoromethane)

21. CFC-12 (dichlorodifluoromethane)

22. CFC-113 (1,1,2-trichloro-1,2,2-trifluoroethane)

23. CFC-114 (1,2-dichloro 1,1,2,2-tetrafluoroethane)

24. CFC-115 (chloropentafluoroethane)

25. HCFC-22 (chlorodifluoromethane)

26. HCFC-31 (chlorofluoromethane)

27. HCFC-123 (1,1,1-trifluoro 2,2-dichloroethane)

28. HCFC-123a (1,2-dichloro-1,1,2-trifluoroethane)

29. HCFC-124 (2-chloro-1,1,1,2-tetrafluoroethane)

30. HCFC-141b (1,1-dichloro 1-fluoroethane)

31. HCFC-142b (1-chloro-1,1 difluoroethane)

32. HCFC-151a (1-chloro-1-fluoroethane)

33. HCFC-225ca (3,3-dichloro-1,1,1,2,2-pentafluoropropane)

34. HCFC-225cb (1,3-dichloro-1,1,2,2,3-pentafluoropropane)

35. HFC-23 (trifluoromethane)

36. HFC-32 (difluoromethane)

37. HFC-43-10mee (1,1,1,2,3,4,4,5,5,5-decafluoropentane)

38. HFC-125 (pentafluoroethane)

39. HFC-134 (1,1,2,2-tetrafluoroethane)

40. HFC-134a (1,1,1,2-tetrafluoroethane)

41. HFC-143a (1,1,1-trifluoroethane)

42. HFC-152a (1,1-difluoroethane)

43. HFC-161 (ethylfluoride)

44. HFC-227ea (1,1,1,2,3,3,3-heptafluoropropane)

445. HFC-236ea (1,1,1,2,3,3,3-hexafluoropropane)

456. HFC-236fa (1,1,1,3,3,3-hexafluoropropane)

467. HFC-245ca (1,1,2,2,3-pentafluoropropane)

478. HFC-245ea (1,1,2,3,3-pentafluoropropane)

489. HFC-245eb (1,1,1,2,3-pentafluoropropane)

4950. HFC-245fa (1,1,1,3,3-pentafluoropropane)

501. HFC-365mfc (1,1,1,3,3-pentafluorobutane)

52. HFE-7000; n-C<sub>3</sub>F<sub>7</sub>OCH<sub>3</sub>; (1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane)

513. HFE-7100; (CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>CH<sub>3</sub>; (2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane) or C<sub>4</sub>F<sub>9</sub>OCH<sub>3</sub>; (1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane)

524. HFE-7200; (CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>; (2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane) or C<sub>4</sub>F<sub>9</sub>OC<sub>2</sub>H<sub>5</sub>; (1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane)

55. HFE-7300; (~~4~~)-1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy- 4-trifluoromethyl-pentane)

56. HFE-7500; (3-ethoxy- 1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2- (trifluoromethyl) hexane)

Rule 202.D.10.1.1 requires an Authority to Construct and Permit to Operate when using more than one gallon per year per stationary source of any one of the following exempt compounds:

- |                                |  |
|--------------------------------|--|
| <u>(6) dimethyl carbonate,</u> | <u>(37) HFC-43-10mee,</u>  |
| <u>(12) methyl formate,</u>    | <u>(50) HFC-245fa,</u>   |
| <u>(33) HCFC-225ca,</u>        | <u>(51) HFC-365mfc, or</u>   |
| <u>(34) HCFC-225cb,</u>        | <u>(53) HFE-7100 [(CF<sub>3</sub>)<sub>2</sub>CFCHF<sub>2</sub>OCH<sub>3</sub> or C<sub>4</sub>F<sub>9</sub>OC<sub>2</sub>H<sub>5</sub>]</u> |

Rule 202.D.10.1.2 requires an Authority to Construct and Permit to Operate when using more than one gallon per year per stationary source of: (19) tertiary-butyl acetate.

The one gallon per year per stationary source limit is a per compound limit for each compound in aggregate for the entire stationary source and includes any amounts of the compound used in mixed or diluted product.

**“Reactive Organic Compound Composite Partial Pressure”** means the sum of the partial pressures of compounds defined as reactive organic compounds. Reactive organic compound composite pressure shall be calculated as follows:

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

Where:  $W_i$  = Weight of the “i”th reactive organic compound, in grams  
 $W_w$  = Weight of water, in grams  
 $W_e$  = Weight of the “e”th exempt compound, in grams  
 $MW_i$  = Molecular weight of the “i”th reactive organic compound, in grams per grams-mole  
 $MW_w$  = Molecular weight of water, in grams per grams-mole  
 $MW_e$  = Molecular weight of the “e”th exempt compound, in grams per grams-mole  
 $PP_c$  = Reactive organic compound composite partial pressure at 20 degrees Celsius, in millimeters of mercury  
 $VP_i$  = Vapor pressure of the “i”th reactive organic compound at 20 degrees Celsius, in millimeters of mercury

[. . .]

**“Scientific Instrument”** means an instrument, including the components, assemblies, and subassemblies used in their manufacture, and associated accessories and reagents, that is used for the detection, measurement, analysis, separation, synthesis, or sequencing of various compounds.

[. . .]

**“South Coast Air Quality Management District Method 303-91, “Determination of Exempt Compounds,” August 1996,”** means the test method adopted by and in effect by the South Coast Air Quality Management District on [date of amended rule adoption].

**“South Coast Air Quality Management District Method 313-91, “Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry,” June 1993,”** means the test method adopted by and in effect by the South Coast Air Quality Management District on [date of amended rule adoption].

**“Space Vehicle”** means any man-made device, either manned or unmanned, designed for operation beyond earth's atmosphere. This definition includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons. Also included is auxiliary equipment associated with test, transport, and storage, which through contamination can compromise the space vehicle performance.

[...]

**“Temporary Total Enclosure”** means any total enclosure that is constructed for the sole purpose of measuring the emissions from an affected source that are not delivered to an emission control device. A temporary total enclosure must be constructed and ventilated (through stacks suitable for testing) so that it has minimal impact on the performance of the permanent emission capture system. A temporary total enclosure will be assumed to achieve total capture of fugitive emissions if it meets the requirements found in 40 CFR Section 63.750(g)(4) and if all natural draft openings are at least four duct or hood equivalent diameters away from each exhaust duct or hood. Alternatively, the owner or operator may apply to the Control Officer for approval of a temporary enclosure on a case-by-case basis.

**“Thermal Incinerator”** means any device that burns reactive organic compounds or toxic air contaminants in air by direct application of heat. Thermal incinerators are usually equipped with burners, refractory lined chambers, heat recovery equipment, and process controllers.

**“Total Enclosure”** means any permanent structure that is constructed around a gaseous emission source so that all gaseous pollutants emitted from the source are collected and ducted through a control device, such that 100 percent capture efficiency is achieved. There are no fugitive emissions from a total enclosure. The only openings in a total enclosure are forced makeup air and exhaust ducts and any natural draft openings such as those that allow raw materials to enter and exit the enclosure for processing. All access doors or windows are closed during routine operation of the enclosed source. Brief, occasional openings of such doors or windows to accommodate process equipment adjustments are acceptable, but if such openings are routine or if an access door remains open during the entire operation, the access door must be considered a natural draft opening. The average inward face velocity across the natural draft openings of the enclosure shall be calculated including the area of such access doors. The drying oven itself may be part of the total enclosure. An enclosure that meets the requirements found in 40 CFR Section 63.750(g)(4) is a permanent total enclosure.

[...]

**“Transfer Efficiency”** means the ratio of the weight of coating solids adhering to the object being coated to the weight of coating solids used in the application process, expressed as a percentage.

**“Waste Solvent Residue”** means sludge that may contain dirt, oil, metal particles, and/or other undesirable waste products concentrated after heat distillation of solvent either in a solvent cleaning machine itself or after distillation in a separate still.

[...]

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By \_\_\_\_\_  
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**RULE 202. EXEMPTIONS TO RULE 201. (Adopted 10/18/1971, revised 5/1/1972 and 6/27/1977, readopted 10/23/1978, revised 12/7/1987, 1/11/1988, 1/17/1989, 7/10/1990, 7/30/1991, 11/05/1991, 3/10/1992, 5/10/1994, 6/28/1994, 4/17/1997, 3/17/2005, 1/17/2008, 6/19/2008, 9/20/2010, 1/20/2011, ~~and~~ 3/17/2011, and [date of amended rule adoption])**

[. . .]

**C. Definitions**

See Rule 102, [Definitions](#), for definitions.

**D. General Provisions**

[. . .]

5. Temporary Equipment

[. . .]

- b. the temporary equipment replaces equipment that has qualified for a breakdown pursuant to Rule 505, [Breakdown Conditions](#).

[. . .]

6. *De minimis* Exemption

Any physical change in an existing stationary source that meets each of the requirements below is exempt. Emission increases shall be based on the uncontrolled potential to emit, less emission reductions achieved through Rule 331, [Fugitive Emissions Inspection and Maintenance](#), and shall not be reduced (netted out) by emission reductions achieved through the removal or control of any component.

[. . .]

- 9. A permit shall not be required for equivalent routine replacement in whole or in part of any article, machine, equipment or other contrivance where a Permit to Operate had previously been granted under Rule 201, [Permits Required](#), providing emissions are not increased and there is no potential for violating any ambient air quality standard. An equivalent piece of equipment has a Potential to Emit, operating design capacity or actual demonstrated capacity less than or equal to that of the original piece of equipment, and is subject to the same limitations and permit conditions as the equipment being replaced. [. . .]

- 10. Notwithstanding any exemption defined in this rule, no new or modified stationary source that has the potential to emit air contaminants in excess of the amounts specified shall be exempt from permit requirements: [. . .]

- 1. In addition, notwithstanding any exemption defined in this rule, no stationary source that has the potential to emit any air contaminants in excess of the amounts specified shall be exempt from permit requirements: [. . .]
- 2. more than one gallon per year of tertiary-butyl acetate; C<sub>6</sub>H<sub>12</sub>O<sub>2</sub> ("acetic acid, 1,1-dimethylethyl ester"). Tertiary-butyl acetate (also known as t-butyl acetate or tBAC) shall be considered exempt as a reactive organic compound only for purposes of reactive organic compound emissions limitations or reactive organic compound content requirements and ~~will continue to shall~~ be considered a reactive organic compound for purposes of all recordkeeping, emissions

reporting, photochemical dispersion modeling, and inventory requirements which apply to reactive organic compounds. The one gallon per year per stationary source limit for tertiary-butyl acetate is an aggregate limit for the entire stationary source and includes any amounts of the compound used in mixed or diluted product.

[. . .]

16. Notwithstanding any exemption in these rules and regulations, if the combined emissions from all construction equipment used to construct a stationary source which requires an Authority to Construct have a projected actual in excess of 25 tons of any pollutant, except carbon monoxide, in a 12 month period, the owner of the stationary source shall provide offsets as required under the provisions of Rule 804, [Emission Offsets](#), and shall demonstrate that no ambient air quality standard would be violated.
17. No additional permit shall be required at a stationary source in the District for equipment permitted by the District for various location uses provided the following conditions are met:

[. . .]

- d. The stationary source reports all uses (including the start and end dates) and associated emissions for each use under this exemption to the [APCD-District](#) in their next annual report (or semi-annual report for Part 70 sources).

[. . .]

#### **I. Coatings Applications Equipment and Operations**

[. . .]

3. Equipment used in surface coating operations provided that the total amount of coatings and solvents used does not exceed 55 gallons per year. Solvents meeting the criteria of Section U.2.b or Section U.2.c or that have a reactive organic compound content of 50 grams per liter or less, as determined by the [Environmental Protection Agency Reference Method 24 South Coast Air Quality Management District Method 313-91, "Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry," June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer](#), do not contribute to the 55 gallons per year per stationary source limitation. However, such sources need not obtain permits for air pollution control equipment (i.e., spray booths, carbon adsorbers, incinerators, thermal oxidizers, dust collectors, etc.) unless control equipment is required by District prohibitory rules. For equipment owned or operated by a stationary source owner or operator and used as part of the stationary source operations, the 55 gallon per year exemption shall be based on the total coatings and solvents usage of all such equipment at the stationary source.

[. . .]

#### **U. Solvent Application Equipment and Operations**

[. . .]

2. Single solvent cleaning machines, which use unheated solvent, and which:

[. . .]



- c. use solvents with a reactive organic compound content of two percent or less by weight as determined by [Environmental Protection Agency Method 24](#) the South Coast Air Quality Management District Method 313-91, "Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry," June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
- d. The liquid surface area of any solvent cleaning machine using the following solvent shall not be counted towards the 0.929 square meter (10 square feet) aggregate limit in subsection a. above:
  - i. any solvent that has a reactive organic compound content of 50 grams per liter or less, as determined by the [Environmental Protection Agency Method 24](#) South Coast Air Quality Management District Method 313-91, "Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry," June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer; or

[. . .]

- 3. Wipe cleaning operations, provided that the solvents used do not exceed 55 gallons per year per stationary source and that the solvent cleaning complies with the requirements in Rule 321, Solvent Cleaning Machines and Solvent Cleaning.

To qualify for this exemption, the owner or operator shall maintain records of the amount (gallons per year) of solvents used for wipe cleaning at the stationary source for each calendar year.

These records shall be maintained on site for at least 3 years and be made available to the District on request. Thereafter, the records shall be maintained either on site or readily available for expeditious inspection and review for an additional 2 years. Solvents meeting the criteria of 2.b. or c. above or that have a reactive organic compound content of 50 grams per liter or less, as determined by the [Environmental Protection Agency Reference Method 24](#) South Coast Air Quality Management District Method 313-91, "Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry," June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer, do not contribute to the 55 gallons per year per stationary source limitation.

[. . .]

## V. Storage and Transfer Equipment and Operations

[. . .]

- 2. Storage of refined fuel oils with an [American Petroleum Institute](#) gravity of 40<sup>o</sup> degrees API or lower as determined by ASTM D-4057-06, "Standard Practice for Manual Sampling of Petroleum and Petroleum Products," ASTM International.

[. . .]

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**RULE 321. SOLVENT CLEANING MACHINES AND SOLVENT CLEANING. (Adopted 2/24/1975, readopted 10/23/1978, revised 6/11/1979, 7/10/1990, 4/17/1997, 7/17/1997, 9/18/1997, and 9/20/2010, and [date of amended rule adoption])**

**A. Applicability**

This rule shall apply to any person who owns, operates, or uses any solvent cleaning machine or performs any solvent cleaning operation outside of a solvent cleaning machine during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or in general work areas at any stationary source.

**B. Exemptions**

Except as otherwise specifically provided herein, the provisions of this rule shall not apply to the following: [ . . . ]

6. Any equipment or operation that is subject to or specifically exempted by any of the following District rules.

- a. Rule 325, Crude Oil Production and Separation.
- b. Rule 326, Storage of Reactive Organic Compound Liquids.
- c. Rule 330, Surface Coating of Metal Parts and Products.
- d. Rule 337, Surface Coating of ~~Aircraft or~~ Aerospace Vehicles ~~Parts and Products~~ Components.
- e. Rule 339, Motor Vehicle and Mobile Equipment Coating Operations.
- f. Rule 343, Petroleum Storage Tank Degassing.
- g. Rule 344, Petroleum Sumps, Pits and Well Cellars.
- h. Rule 349, Polyester Resin Operations.
- i. Rule 351, Surface Coating of Wood Products.
- j. Rule 353, Adhesives and Sealants.
- k. Rule 354, Graphic Arts.

Notwithstanding this exemption, the applicable Rule 321 requirements apply if a rule for any above process specifies a solvent cleaning machine shall comply with the applicable provisions of Rule 321. [ . . . ]

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**RULE 330. SURFACE COATING OF METAL PARTS AND PRODUCTS. (Adopted 6/11/1979, revised 7/10/1990, 7/24/1990, 11/13/1990, 4/21/1995, ~~and 1/20/2000~~, and [date of amended rule adoption])**

**A. Applicability**

This rule is applicable to any person who manufactures; any metal part coating or metal product coating for use within the District, as well as to any person who uses, applies, or specifies-solicits the use or application of any metal part coating, metal product surface-coatings, or associated solvent within the District-for metal parts and products.

**B. Exemptions**

1. ~~The provisions of~~ Section D shall not apply to any non-complying coatings with separate formulations used in volumes of less than 20 gallons of each non-complying formulation per stationary source in any calendar year. ~~provided that To qualify for this exemption from Section D,~~ the total volume of non-complying coatings used at a stationary source ~~does shall~~ not exceed 55 gallons annually. Coatings used for operations that are exempt per Sections B.2, B.3, ~~and B.4, B.5, B.10, and B.12~~ shall not be included in calculating the volume of coatings used under this exemption. Any person claiming this exemption shall maintain on a daily basis records consistent with Section H.6 and make them available to the District for review upon request. ~~In addition, such person shall be subject to the records required by Section H.~~
2. ~~The provisions of~~ Section ~~DE and H~~ shall not apply to touch-up coatings, and repair coatings, and texture coatings, provided Section D limits are met and records are maintained pursuant to a Permit to Operate.
3. This ~~R~~rule shall not apply to residential non-commercial metal parts and products coating operations.
4. ~~The provisions of t~~This ~~R~~rule shall not apply to the surface coating of parts or products and associated solvent where the only metal involved is fasteners, nails, pins, rivets, hinges, hasps, and similar devices used to hold the ~~non-metal/nonmetal~~ parts together and which do not constitute a substantive part of the total surface area.
5. ~~The provisions of t~~This ~~R~~rule shall not apply to coatings supplied ~~in non-refillable as~~ aerosol products in non-refillable containers ~~having capacities of 18 ounces or less.~~
6. ~~The provisions of t~~This ~~R~~rule shall not apply to the coating operations listed below, which are covered under the categories-rules cited.
  - a. ~~Aircraft or a~~Aerospace vehicles or component finishing or refinishing (Rule 337, Surface Coating of Aerospace Vehicles and Components), or,
  - b. Automobile or truck refinishing (Rule 339, Motor Vehicle and Mobile Equipment Coating Operations), or,
  - c. Marine vessel finishing or refinishing (Rule 317, Organic Solvents), or,
  - d. Stationary structures (Rule 323, Architectural Coatings), ~~or~~
  - e. Application of adhesives and sealants (Rule 353, Adhesives and Sealants).

7. Any coating and associated solvent subject to the requirements of this ~~Rule~~rule shall be exempt from the requirements of any other coating or solvent rule except Rules 317, Organic Solvents, and Rule 322, Metal Surface Coating Thinner and Reducer.
8. This rule shall not apply to any cleaning performed with a solvent (including emulsions) that contains two percent by weight or less of each of the following:
  - a. Reactive organic compounds, and
  - b. Toxic air contaminants (as determined by generic solvent data, solvent manufacturer's composition data or by a gas chromatography test and a mass spectrometry test).
  - c. Any person claiming this exemption shall maintain the records specified in Sections H.1.a and H.1.f in a manner consistent with Section H.9 and make them available for review.
9. This rule shall not apply to stripping of cured coatings, cured adhesives, cured sealants, and cured inks, except the stripping of such materials from spray application equipment.
10. Sections D, E, and J, shall not apply to any of the following:
  - a. Stencil coatings;
  - b. Safety-indicating coatings;
  - c. Magnetic data storage disk coatings;
  - d. Solid-film lubricants;
  - e. Electric-insulating and thermal-conducting coatings.
11. Section J shall not apply to any of the following:
  - a. Cleaning of semiconductor and microelectromechanical devices undergoing manufacturing processes involving thin film deposition, vacuum deposition, dry etching, or metal lift-off operations; including any maintenance activities associated with such operations;
  - b. Cleaning of metal in electronic components;
  - c. Cleaning of encasements, including decoy shells or box casings, for electronic components that have a total surface area that is less than 2 square feet;
  - d. Cleaning of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);
  - e. Cleaning of transparencies, polycarbonate, or glass substrates;
  - f. Cleaning of solar cells, coated optics, laser hardware, scientific instruments, high-precision optics, telescopes, microscopes, and military fluid systems;
  - g. Cleaning or stripping of coating overspray from personal protective equipment.

12. This rule shall not apply to coatings that contain less than 20 grams of reactive organic compound per liter (0.17 pounds of reactive organic compound per gallon) of coating, less water and less exempt compounds, as applied.

### C. Definitions

See Rule 102, Definitions, for definitions not limited to this rule. For the purposes of this ~~Rule~~rule, the following definitions shall apply:

1. ~~“Aircraft or Aerospace Vehicle or Component”~~ means ~~any~~ fabricated part, processed part, assembly of parts, or completed unit of any aircraft including but not limited to airplanes, helicopters, missiles, ~~s, rockets, or and~~ space vehicles includes satellites.

2. ~~“Air dried”~~ means a process whereby the coated object is cured or dried at a temperature less than 90°C degrees Celsius (194°F degrees Fahrenheit).

“Associated Solvent” means any solvent used in a solvent cleaning machine or for solvent cleaning performed in association with surface coating of any metal part or product.

3. ~~“Baked”~~ means a process whereby the coated object is heated to a temperature of 90°C degrees Celsius (194°F degrees Fahrenheit) or greater for the purpose of curing or drying.

“Coating” means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains. For the purposes of Rule 330, photoresist coatings are not considered to be coatings.

“Compliant Material” means any coating or solvent that has a reactive organic compound content that complies with the applicable limit in Sections D.1, D.2, D.3, or J.

“Control” means the reduction, by destruction or removal, of the amount of affected pollutants in a gas stream prior to discharge to the atmosphere.

4. ~~“Detailing or Touch-up Guns”~~ are small air spray equipment, including air brushes, that operate at no greater than 5 ~~cfm~~ cubic feet per minute air flow and no greater than 50 pounds per square inch gauge (~~psig~~) air pressure and are used to coat small products or portions of products.

“Dip Coat Application” means any process in which a substrate is immersed in a solution (or dispersion) containing the coating material, and then withdrawn.

“Electric-Insulating and Thermal-Conducting Coating” means a coating that displays an electrical insulation of at least 1,000 volts direct current per mil (0.001 of an inch) on a flat test plate and an average thermal conductivity of at least 0.27 British thermal units per hour-foot-degree-Fahrenheit.

“Electric-Insulating Varnish” means a non-convertible-type coating applied to electric motors, components of electric motors, or power transformers, to provide electrical, mechanical, and environmental protection or resistance.

“Electrodeposition” means the application of a coating using a water-based electrochemical bath process. The component being coated is immersed in a bath of the coating. An electric potential is applied between the component and an oppositely charged electrode hanging in the bath. The electric potential causes the ionized coating to be electrically attracted, migrated, and deposited on the component being coated.

5. ~~“Electrostatic Application” means using a sufficient charging of atomized paint droplets to cause deposition by electrostatic attraction. This application requires a minimum 60kV power supply.~~

6. ~~“Exempt Organic Compounds” means those compounds listed as exceptions in the definition of “Reactive Organic Compounds” in Rule 102.~~

**“Extreme Performance Coating”** means a coating used on a metal surface where the coated surface is, in its intended use, subject to the following:

- a. Chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solutions including water immersion; or
- b. Repeated exposure to temperatures in excess of 250 degrees Fahrenheit; or
- c. Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents.

**“Flow Coat Application”** means any coating application system, with no air supplied to the nozzle, where paint flows over the part and the excess coating drains back into the collection system.

7. **“Grams of Reactive Organic Compounds per Liter of Coating, Less Water and Less Exempt Compounds”** means the weight of reactive organic compounds per combined volume of reactive organic compounds and coating solids and can be calculated by the following equation:

$$\frac{\text{Grams of } \del{ROC} \text{ reactive organic compounds}}{\text{per liter of coating, less water and less exempt compounds}} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:

$W_s$	=	Weight of volatile compounds in grams
$W_w$	=	Weight of water in grams
$W_{es}$	=	Weight of exempt <del>organic</del> compounds in grams
$V_m$	=	Volume of material in liters
$V_w$	=	Volume of water in liters
$V_{es}$	=	Volume of exempt <del>organic</del> compounds in liters

8. **“Hand Application Method”** means the application of a surface coating by manually held non-mechanically operated equipment. Such equipment includes paint brush, hand-roller, trowel, spatula, dauber, rag or sponge.

9. ~~**“High Volume Low Pressure Spraying”** means using spray equipment with air pressure between 0.1 and 10.0 psi and air volume greater than 15.5 cfm per spray gun.~~

10. ~~**“Industrial maintenance coating”** means high performance coatings which are formulated for the purpose of heavy abrasion, water immersion, chemical, corrosion, temperature, electrical or solvent resistance.~~

**“Magnetic Data Storage Disk Coating”** means a coating used on a metal disk which stores data magnetically.

11. **“Metal Part or Product”** means any part, assembly of parts or completed unit fabricated in part or in total from metal.

**“Non-Complying Coating”** means a coating with a reactive organic compound content above a limit specified in Section D.1, 2, or 3.

**“Non-Powder Coating”** means any coating that is not a powder coating.

**“Noncompliant Material”** means any coating or solvent that has a reactive organic compound content that does not comply with the applicable limit in Sections D.1, D.2, D.3, or J.



**“Powder Coating”** means any coating applied as fine particle solids with less than 4 percent by weight reactive organic compound or other liquid carriers.

12. ~~\_\_\_\_\_~~ **“Repair Coating”** means a coating used to re-coating portions of a previously coated product due to which has sustained mechanical damage to the coating following normal painting-coating operations.

**“Safety-Indicating Coating”** means a coating which changes physical characteristics, such as color, to indicate unsafe conditions.

**“Solid-Film Lubricant”** means a very thin coating consisting of a binder system containing as its chief pigment material one or more of molybdenum disulfide, graphite, polytetrafluoroethylene (PTFE), or other solids that act as a dry lubricant between facing surfaces.

**“Solvent”** means any liquid containing any reactive organic compound or any toxic air contaminant, which is used as a diluent, thinner, dissolver, viscosity reducer, cleaning agent, drying agent, preservative, or other similar uses.

**“Solvent Cleaning”** means any activity, operation, or process (including, but not limited to, surface preparation, cleanup, or wipe cleaning) performed outside of a solvent cleaning machine, that uses solvent to remove uncured adhesives, uncured coatings, uncured inks, uncured polyester resin material, uncured sealant, or other contaminants, including, but not limited to, dirt, soil, oil, lubricants, coolants, moisture, fingerprints, and grease, from parts, products, tools, machinery, application equipment, and general work areas. Cleaning spray equipment used for the application of coating, adhesive, ink, polyester resin material, or sealant is also considered to be solvent cleaning irrespective of the spray material being cured.

**“Solvent Cleaning Machine”** means any device or piece of equipment that uses solvent liquid or vapor to remove soils, moisture, or other contaminants from the surfaces of materials. Types of solvent cleaning machines include, but are not limited to, batch cold, batch vapor, in-line cold, in-line vapor, remote reservoir, and gas-path solvent cleaners. Buckets, pails, and beakers with capacities of 3.785 liters (1.00 gallon) or less are not considered solvent cleaning machines. However, the use of such a container or similar containers (e.g., hand-held spray bottles) with a liquid solvent for cleaning is considered to be solvent cleaning. Any device or piece of equipment used exclusively for stripping shall not be considered to be a solvent cleaning machine.

**“Stencil Coating”** means an ink or a coating which is rolled or brushed onto a template or stamp in order to add identifying letters and/or numbers to metal parts and products.

**“Texture Coating”** means any coating that is applied to a metal part or product which, in its finished form, consists of discrete raised spots of the coating.

13. ~~\_\_\_\_\_~~ **“Touch-u Up Coating”** means that portion of the coating operation which is separate from the a coating used to cover minor coating imperfections appearing after the main coating operationprocess but necessary to cover minor imperfections or to achieve coverage as required.

14. ~~\_\_\_\_\_~~ **“Transfer efficiency”** means the ratio of the weight of coating solids adhering to the object being coated to the weight of coating solids used in the application process, expressed as a percentage.

#### **D. Requirements — Reactive Organic Compounds Limits**

~~A~~ No person shall ~~not~~ apply any coating or ~~specify-solicit~~ the use of any coating on any metal part or product subject to the provisions of this ~~Rule~~rule, which, as applied, ~~emits or may emit~~contains reactive organic compounds ~~into the atmosphere~~ in excess of the following limits. These limits are expressed in grams of reactive organic compound per liter or pounds of reactive organic compound per gallon of coating, less water and ~~less~~ exempt ~~organic~~ compounds.

1. Non-Powder Coatings except Air Dried ~~Industrial Maintenance-Extreme Performance~~ Coatings and Air Dried Electric-Insulating Varnish:

**Air Dried**

**Baked**

340 grams per liter  
2.8 pounds per gallon

275 grams per liter  
2.3 pounds per gallon

2. Non-Powder ~~Industrial Maintenance-Extreme Performance~~ Coatings and Electric-Insulating Varnish - 420 grams per liter, 3.51 pounds per gallon (when air dried)

3. Powder Coatings - 50 grams per liter, 0.42 pound per gallon

4. ~~Sources~~ A person may elect to use an add-on ~~exhaust control system equipment to achieve as an alternative to meeting the requirements compliance with provisions of Sections D.1, D.2, D.3, E, and J, provided that the control equipment meets all of the applicable requirements of Sections a and b below are met. Such control equipment must be approved in advance by the Control Officer.~~ Any person choosing to install such control equipment system shall obtain an Authority to Construct from the District prior to installation.

a. ~~The control device shall reduce emissions from an emission collection system by at least 95 percent by weight.~~

b. ~~The emission collection system which collects and transports emissions to an air pollution control device shall collect at least 90 percent by weight of the emissions generated by the sources of emissions.~~

a. The overall efficiency (the capture efficiency multiplied by the control device efficiency) of the total system shall be at least 85.5 percent, by weight. Alternatively, the control device reactive organic compound exhaust concentration shall not exceed 10 parts per million by volume as propane or other limit approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.

b. Combustion temperature shall be continuously monitored when operating a thermal incinerator.

c. Inlet and exhaust gas temperatures shall be continuously monitored when operating a catalytic incinerator.

d. Control device efficiency shall be continuously monitored when operating a carbon adsorber or a control device other than a thermal or catalytic incinerator.

e. Compliance through the use of an add-on control system shall not result in affected pollutant emissions in excess of the affected pollutant emissions that would result from compliance with Sections D.1, D.2, D.3, E, and J.

**E. Requirements — Application Equipment**

~~A~~ No person shall ~~not~~ apply coatings subject to the provisions of this rule ~~except by using properly operated unless the application is performed with equipment and by operating according to the manufacturers operating guidelines. In addition, except as provided in Section D.4, the application method employed shall be one of the following:~~

1. Electrostatic spray application, or
2. Flow coat application, or

3. Dip coat application, or
4. High volume, low pressure spraying equipment, or
5. Electrodeposition, or
6. Hand application methods, or
7. Detailing or touch-up guns, or
8. Any other ~~coating~~ application method ~~that is demonstrated to the satisfaction of approved by the Control Officer, the Air Resources Board, and the Environmental Protection Agency, achieves that has a coating transfer efficiency at least equivalent to or greater than 65 percent transfer efficiency as demonstrated by measured using~~ the test method specified in Section I.4.

**F. Requirements — ~~Closed Containers~~General Operating**

Any person who owns, operates, or uses any application equipment to surface coat any metal part or product shall meet the following requirements:

1. All reactive organic compounds-containing materials, used or unused, including, but not limited to, surface coatings, thinners, cleanup solvents, or surface preparation materials shall be stored and disposed of in ~~closed nonabsorbent and nonleaking containers equipped with tight-fitting covers. All covers shall be in place unless adding material to or removing material from the containers, and opened only during extraction or introduction of material for mixing, use or storage the~~ containers are empty, or doing maintenance/inspection of the containers.
2. All application equipment, ventilation system, and emission control equipment shall be installed, operated, and maintained consistent with the manufacturer's specifications.
3. Waste solvent, waste solvent residues, and any other waste material that contains reactive organic compounds shall be disposed of by one of the following methods:
  - a. A commercial waste solvent reclamation service licensed by the State of California.
  - b. At a facility that is federally or state licensed to treat, store or dispose of such waste.
  - c. Recycling in conformance with Section 25143.2 of the California Health and Safety Code.
4. All covers, valves, drain plugs, and other closure devices designed to reduce surface coating or solvent evaporation shall not be removed or opened except to process work or to perform monitoring, inspections, maintenance, or repairs that require the removal of the covers or other closure devices.
5. Any surface coating or solvent spills shall be wiped up immediately and the used absorbent material (e.g., cloth, paper, sand, sawdust, etc.) shall be stored in closed containers that are handled in accordance with Section F.1.
6. The handling and transfer of coatings and cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent coatings and cleaning solvents shall be conducted in such a manner to minimize spills.

7. Containers used to store coating, solvent, or any waste material that contains reactive organic compounds subject to this rule shall be marked or clearly labeled indicating the name of the material they contain.

#### **G. Requirements — Manufacturer Labeling**

1. Each container of any coating subject to this rule shall display the date on which the contents were manufactured or a code indicating the date of manufacture. Each manufacturer of such coatings shall file with the Control Officer and the Executive Officer of the California Air Resources Board, an explanation of each code.
2. Each container of any coating subject to this rule shall display a statement of the manufacturer's recommendation regarding thinning of the coating. This recommendation shall not apply to the thinning of coatings with water. The recommendation shall specify that the coating is to be employed without thinning or diluting under normal environmental and application conditions unless any thinning recommended on the label for normal environmental and application conditions does not cause a coating to exceed its applicable standard for reactive organic compound content.
3. Each container of any coating subject to this rule shall display the maximum reactive organic compound content of the coating, as applied, and after any thinning as recommended by the manufacturer. Reactive organic compound content shall be displayed as grams of reactive organic compounds per liter or pounds of reactive organic compound per gallon of coating, less water and less exempt solvents~~compounds~~. The volatile organic compound content may be displayed instead of the reactive organic compound content as long as the manufacturer's definition of volatile organic compound is consistent with the definition of reactive organic compound contained in District Rule 102, Definitions. Reactive organic compound content displayed may be calculated using product formulation data and the formula in Section C, or may be determined using the test method in Section HI.1.

#### **H. Requirements — Recordkeeping**

Any ~~Persons~~ person subject to this ~~Rule~~rule shall comply with the following requirements. Any owner or operator of any stationary source comprised of more than one facility may comply with the following requirements on a facility basis.

1. Maintain a current listing~~file~~ of all reactive organic compound-~~containing~~ materials in use at the stationary source subject to this ~~Rule~~rule. The file shall provide all of the data necessary to evaluate compliance and shall include the following information, as applicable:
  - a. material name and manufacturer identification (e.g., brand name, stock identification number);
  - b. application method;
  - c. material type (~~i.e., e.g.,~~ air dried or baked enamel, powder coating, ~~industrial maintenance~~ extreme performance coating, cleanup solvent, etc.), type operation (e.g., coating, stripping, or solvent cleaning), and, for non-powder coating operations, the drying method and equipment coated;
  - d. specific mixing ~~ratio~~data (e.g., component volumes or weights) of each component for each batch sufficient to determine the mixture's reactive organic compound content;
  - e. the corresponding reactive organic compound content limit from Sections D.1, D.2, D.3 and J.1 and the ~~maximum~~ actual as-applied reactive organic compound content of ~~each~~

the materials used, less water and less exempt compounds (including thinning solvents); and

f. current coating and solvent manufacturer specification sheets, Material Safety Data Sheets, product data sheets, or air quality data sheets, which list the reactive organic compound content of each material in use at the stationary source subject to this rule. Compliance with this provision may be done by ensuring the manufacturer's specifications are listed on the product container.

2. ~~For each industrial maintenance coating, a list of each part or product coated on a monthly basis.~~[Reserved]

3. ~~Current coating manufacturer specification sheets, Material Safety Data Sheets or current air quality data sheets, which list the reactive organic compounds content of each material in use at their facility, shall be available for review on site.~~

43. Maintain ~~purchase~~ records ~~identifying the type or name and the volume of material purchased for each reactive organic compounds containing material.~~ purchased for use at the stationary source. The records shall include, but not be limited to, the following:

a. material name and manufacturer identification (e.g., brand name, stock identification number); and

b. material type (e.g., air dried or baked enamel, powder coating, extreme performance coating, cleanup solvent, etc.).

4. Maintain records of the disposal method each time waste solvent, waste solvent residue, or other waste material that contain reactive organic compounds is removed from the stationary source for disposal.

5. ~~Maintain~~ For each material maintained in response to Section H.1.a, maintain, at a minimum, on a monthly basis for compliant material and on a daily basis for noncompliant material, a record of the following:

a. volume used (gallons per day, gallons per month);

b. reactive organic compounds content (grams per liter or pounds per gallon); and

c. ~~and~~ resulting reactive organic compound emissions (pounds per day, pounds per month) of each reactive organic compounds containing material used.

~~For permitted facilities and users of non-compliant coatings, all records required by Section H.1 shall be summarized for each calendar year and submitted to the District by March 1 of the following year.~~

6. ~~Operators of facilities that use non-compliant coating materials that do not achieve compliance through the operation of emission control equipment shall maintain daily records of the volumes of non-compliant coating materials used. In addition, operators claiming the Section B.1 exemption shall maintain~~ Any person claiming an exemption under the Section B.1 shall maintain:

a. Daily records of the volumes in gallons of non-~~compliant~~ complying coating materials used by each separate formulation at the stationary source.

b. Annual running totals, from January 1 of each calendar year, of the volume in gallons of non-~~compliant~~ complying coating materials used at the stationary source for:

- 1) Each separate formulation.
  - 2) All formulations.
7. ~~Operators of facilities~~ For any stationary source that uses ~~non-compliant coating materials with compliance achieved through the operation of~~ emission control equipment ~~as an alternative to meeting the requirements of Sections D.1, D.2, D.3, E, or J, shall maintain~~ daily records of key operating parameter values and maintenance procedures ~~which that~~ demonstrate continuous operation and compliance of the emission control ~~device-system~~ during periods of emission producing activities shall be maintained. These parameters shall include, but not be limited to:
- a. Hours of operation;
  - b. All maintenance work that requires the emission control system to be shut down; and
  - c. All information needed to demonstrate continuous compliance with Section D.4, such as temperatures, pressures, and/or flow rates.
8. ~~Any records required by to be maintained pursuant to this rule shall be kept on site for at least 2 years unless a longer retention period is otherwise required by state or federal regulation(s). Such records shall be readily available for shall be retained and available for inspection by the Control Officer or designated representative upon request for the previous 36-month period and review by the District.~~

**I. Requirements – Compliance Provisions and Test Methods**

1. Coatings and solvent reactive organic compound content shall be ~~determined-measured using by the~~ Environmental Protection Agency Reference Method 24, ~~or its constituent methods, or an~~ equivalent method approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer. The determination of exempt compounds shall be performed in accordance with ASTM D 4457-1991, “Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph,” ASTM International. Alternatively, determination of exempt compounds may be performed in accordance with the South Coast Air Quality Management District Method 303-91, “Determination of Exempt Compounds,” August 1996. The reactive organic compound content of materials containing 50 grams of reactive organic compound per liter or less shall be determined by the South Coast Air Quality Management District Method 313-91, “Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry,” June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
2. ~~Compliance with Section D.4.a~~ The control device efficiency for reactive organic compound emissions shall be determined by ~~using Air Resources Board Method 100 or Environmental Protection Agency Methods 18, 25, or 25A,~~ the South Coast Air Quality Management District Method 25.1, “Determination of Total Gaseous Non-Methane Organic Emissions as Carbon,” February 1991, or the South Coast Air Quality Management District Method 25.3, “Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources,” March 2000, as applicable. Environmental Protection Agency Test Method 18 or Air Resources Board Method 422, “Exempt Halogenated VOCs in Gases,” September 12, 1990, shall be used to determine emissions of exempt compounds.

3. Compliance with Section D.4.b The capture efficiency for reactive organic compound emissions shall be determined ~~according to~~ by verifying the use of a Permanent Total Enclosure and 100 percent capture efficiency as defined by Environmental Protection Agency Method 204 ~~and 204A-F~~, “Criteria for and Verification of a Permanent or Temporary Total Enclosure.” Alternatively, if an Environmental Protection Agency Method 204 defined Permanent Total Enclosure is not employed, capture efficiency shall be determined using a minimum of three sampling runs subject to data quality criteria presented in the Environmental Protection Agency technical guidance document “Guidelines for Determining Capture Efficiency, January 9, 1995.” Individual capture efficiency test runs subject to the Environmental Protection Agency technical guidelines shall be determined by:
  - a. The Temporary Total Enclosure approach of Environmental Protection Agency Methods 204 through 204F; or
  - b. The South Coast Air Quality Management District “Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency,” May 1995.
4. Compliance with Section E.8 Application equipment coating transfer efficiencies shall be ~~determined-measured~~ using South Coast Air Quality Management District Method “Spray Equipment Transfer Efficiency Test Procedure ~~of for~~ Equipment User,” May 24, 1989.
5. The control device efficiency for toxic air contaminant emissions that are not reactive organic compounds shall be determined using:
  - a. an Environmental Protection Agency approved test method or methods, or
  - b. in the case where there is no Environmental Protection Agency approved test method, a District approved detection method applicable for each target toxics specie.
  - c. the Control Officer may require more than one test method on any emission control device where necessary to demonstrate that the overall efficiency is at least 85.5 percent by weight in reducing emissions of reactive organic compounds and/or toxic air contaminants. Any technique to convert “parts per million by volume” test method results to either 1) “parts per million by weight,” or 2) “mass emission rates” (e.g., pounds per hour) shall first be approved by the Control Officer and, if such approval is not provided, then the technique shall not be used to show compliance with this rule.
6. The capture efficiency for toxic air contaminant emissions that are not reactive organic compounds shall be determined by using the methods described in Section I.3 modified in a manner approved by the District to quantify the mass of liquid or gaseous reactive organic compounds and/or toxic air contaminants.
7. Emissions of reactive organic compounds from the exhaust of an emission control system shall be measured by the Environmental Protection Agency Method 25, in combination with Environmental Protection Agency Method 18 or the California Air Resources Board Method 422, “Exempt Halogenated VOCs in Gases,” September 12, 1990 (to determine emissions of exempt compounds).
8. When more than one test method or set of test methods are specified for any testing, a test result showing an exceedance of any limit of this rule shall constitute a rule violation.
9. The Environmental Protection Agency test methods in effect on [date of amended rule adoption] shall be the test methods used to meet the requirements of this rule.

## J. Requirements – Solvent Cleaning Associated with Surface Coating of Metal Parts and Products

Section J requirements shall apply to any person performing solvent cleaning associated with surface coating of metal parts and products, including, but not limited to, use of wipe cleaning cloths, hand-held spray bottles, squirt bottles, aerosol products, and the cleaning of application equipment. The following requirements become effective [one year from the date of amended rule adoption] and are in addition to the general operating requirements specified in Section F.

### 1. Solvent Requirements

Except when using an emission control system that meets the requirements of Section D.4, no person shall use any solvent to perform solvent cleaning which exceeds the applicable grams of reactive organic compound per liter of material limit specified in Table 330-1.

**Table 330-1: Reactive Organic Compound Content Limits for Solvent Cleaning Associated with Surface Coating of Metal Parts and Products**

<u>SOLVENT CLEANING ACTIVITY</u>	<u>ROC Limit, grams of ROC per liter of material (pounds of ROC per gallon of material)</u>
<u>(a) Metal Parts and Products Surface Preparation for Coating Application</u>	<u>25 (0.21)</u>
<u>(b) Cleaning of Coatings Application Equipment</u>	<u>25 (0.21)</u>

## K. Compliance Schedule

Any person who owns, operates, or uses any application equipment to surface coat any metal part or product shall meet the following compliance schedule:

1. By [30 days from the date of amended rule adoption], comply with Section F, Requirements - General Operating.
2. By [six months from the date of amended rule adoption], comply with the recordkeeping provisions in the following Sections:
  - a. H.1.d - mixing data,
  - b. H.1.e - reactive organic compound content data,
  - c. H.3 - purchase records,
  - d. H.4 - waste disposal records, and
  - e. H.5 - daily records for noncompliant materials.
3. By [one year from the date of amended rule adoption], comply with the Section J and Section M requirements.
4. By [date of amended rule adoption], comply with all other provisions of this rule.



**L. Reporting Requirements**

Submittal of an annual report to the District is required if:

- A person holds a permit for equipment subject to the requirements of this rule, or
- A person is subject to the requirements of this rule and applies non-complying coatings.

The annual report shall be submitted to the District by March 1 and it shall contain the following information for the previous calendar year:

1. monthly totals (gallons) of compliant and noncompliant material used based on the records required by Section H.5.
2. annual totals (gallons) based on each of the coating's and solvent's monthly data.
3. if claiming the Rule 330.B.1 exemption, annual totals (gallons) of non-complying coatings for each separate formulation and all formulations, per Section H.6.b, and
4. if permitted, name and address of the company or agency, and the Permit to Operate number that the surface coating equipment is subject to.

**M. Requirements - Solvent Cleaning Machine**

Any person who owns, operates, or uses any solvent cleaning machine shall comply with the applicable provisions of Rule 321, Solvent Cleaning Machines and Solvent Cleaning.

APPROVED AS TO FORM:

DENNIS A. MARSHALL  
SANTA BARBARA COUNTY COUNSEL

By \_\_\_\_\_  
Deputy  
Attorneys for the Santa Barbara County  
Air Pollution Control District

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**RULE 337. SURFACE COATING OF ~~AIRCRAFT OR~~ AEROSPACE VEHICLES ~~PARTS AND PRODUCTS~~COMPONENTS.** (Adopted 7/10/1990, revised 7/24/1990, ~~and~~ 10/20/1994, and [date of amended rule adoption])

**A. Applicability**

This rule is applicable to any person who manufactures; any aerospace vehicle coating or aerospace component coating for use within the District, as well as any person who uses, applies, or specifies/solicits the use or application of any aerospace vehicle or component surface coatings or associated solvent within the District for aircraft or aerospace vehicle parts and products. Rule 337 does not apply to electronic components.

**B. Exemptions**

1. The provisions of Section D.1 shall not apply to any non-complying coatings with separate formulations used in volumes of less than 20 gallons of each non-complying formulation per stationary source in any calendar year. provided that To qualify for this exemption from Section D.1, the total volume of non-complying coatings used at a stationary source does not exceed 200 gallons annually. Coatings used for operations that are exempt per Sections B.2, and B.3, B.6, B.8, B.11, B.12, and B.13 shall not be included in calculating the volume of coatings used under this exemption. Any person claiming this exemption shall maintain on a monthly-daily basis an annual running total of the volume of each separate formulation of coating used under this exemption records consistent with Section H.7 and make them available to the District for review upon request. These coatings shall be subject to the records required by Section H.
2. The provisions of Section E, and H shall not apply to touch-up and repair, provided Section D.1 limits are met and records are maintained pursuant to a Permit to Operate.
3. The provisions of this rule shall not apply to coatings (including adhesive products and sealant products) supplied in non-refillable as aerosol products in non-refillable containers with capacities of 18 ounces or less.
4. Any coating and associated solvent subject to the requirements of this rule shall be exempt from the requirements of Rule 317, Organic Solvents, and Rule 322, Metal Surface Coating Thinner and Reducer. Any coating exempt from this rule shall comply with all other applicable District Rules.
5. This rule shall not apply to any cleaning performed with a solvent (including emulsions) that contains two percent by weight or less of each of the following:
  - a. Reactive organic compounds, and
  - b. Toxic air contaminants (as determined by generic solvent data, solvent manufacturer's composition data or by a gas chromatography test and a mass spectrometry test).
  - c. Any person claiming this exemption shall maintain the records specified in Sections H.1.a and H.1.f in a manner consistent with Section H.9 and make them available for review.
6. This rule shall not apply to coatings that contain less than 20 grams of reactive organic compound per liter (0.17 pounds of reactive organic compound per gallon) of coating, less water and less exempt compounds, as applied.
7. Section D.2 and J.1.a shall not apply to solvents and strippers used in space vehicle manufacturing and rework.

8. This rule shall not apply to chemical milling and electrodeposition (except for electrodeposition of coatings).
9. Section J.1.a shall not apply to any of the following:
  - a. Cleaning of encasements, including decoy shells or box casings, for electronic components that have a total surface area that is less than 2 square feet;
  - b. Cleaning of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);
  - c. Cleaning of aircraft transparencies, polycarbonate, or glass substrates;
  - d. Cleaning of solar cells, coated optics, laser hardware, scientific instruments, high-precision optics, telescopes, microscopes, avionic equipment, military fluid systems, and thermal control surfaces;
  - e. Wipe cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;
  - f. Wipe cleaning and surface activation prior to adhesive bonding;
  - g. Wipe cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;
  - h. Wipe cleaning of fuel cells, fuel tanks, and confined spaces.
10. Section E shall not apply to any of the following:
  - a. Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces;
  - b. The use of airbrush application methods for stenciling, lettering, and other identification markings.
11. The chemical milling maskant limits in Section D.1, Table 337-1, shall not apply to any of the following:
  - a. Touch-up of scratched surfaces or damaged maskant;
  - b. Touch-up of trimmed edges.
12. Section D.1 shall not apply to electric- and radiation-effect coatings that have been designated as "classified" by the United States Department of Defense.
13. This rule shall not apply to coatings (including adhesive products and sealant products) subject to the Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, section 94507 et seq.
14. Sections D.2 and J.1.a shall not apply to any of the following:
  - a. Cleaning or stripping of coating overspray from personal protective equipment;
  - b. Wipe cleaning or stripping during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in the interior of the aircraft;

- c. Wipe cleaning or stripping of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components.

## C. **Definitions**

See Rule 102, Definitions, for definitions not ~~restricted to interpretation of~~ limited to this rule. ~~Definitions specific to this rule are listed below.~~ For purposes of this rule, the following definitions shall apply:

**“Ablative Coating”** means any coating that chars when exposed to open flame or extreme temperatures, as would occur during the failure of an engine casing or during aerodynamic heating. The ablative char surface serves as an insulative barrier, protecting adjacent components from the heat or open flame.

**“Adhesion Promoter”** means any very thin coating applied to a substrate to promote wetting and form a chemical bond with the subsequently applied material.

**“Adhesive”** means any substance that is used to bond one surface to another surface by attachment or fused union. Adhesives are a type of specialty coating.

1. ~~“Adhesive Bonding Primer”~~ means any coating primer applied in a ~~very~~ thin film to ~~aircraft or aerospace parts or products components~~ for the ~~primary~~ purpose of ~~providing a primer for a subsequent coat of structural adhesive~~ corrosion inhibition and increased adhesive bond strength by attachment.

**“Adhesive Product”** means any adhesive, glue, cement, mastic, adhesive bonding primer, adhesive primer, adhesive primer for plastics, and any other adhesive primer. Adhesive products are a type of coating.

**“Aerospace Vehicle or Component”** means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles includes satellites.

2. ~~“Aircraft or Aerospace Vehicle”~~ means a fabricated part, assembly of parts or completed unit of any aircraft, helicopter, missile or space vehicle.

**“Aircraft Fluid Systems”** mean those systems that handle hydraulic fluids, fuel, cooling fluids, or oils.

**“Aircraft Transparency”** means the aircraft windshield, canopy, passenger windows, lenses and other components which are constructed of transparent materials.

**“Airless Spray”** means a spray method in which a pump forces the adhesive through an atomizing nozzle at high pressure (1,000 to 6,000 pounds per square inch).

**“Antichafe Coating”** means any coating applied to areas of moving aerospace components that may rub during normal operations or installation.

**“Associated Solvent”** means any solvent used in a solvent cleaning machine or for solvent cleaning performed in association with surface coating of any aerospace vehicle or aerospace component.

**“Barrier Coating”** means any coating applied in a thin film to fasteners to inhibit dissimilar metal corrosion and to prevent galling.

**“Bearing Coating”** means any coating applied to an antifriction bearing, a bearing housing, or the area adjacent to such a bearing in order to facilitate bearing function or to protect base material from excessive wear. A material shall not be classified as a bearing coating if it can also be classified as a dry lubricative material or a solid film lubricant.

**“Bonding Maskant”** means any temporary coating used to protect selected areas of aerospace parts from strong acid or alkaline solutions during processing for bonding.

**“Caulking and Smoothing Compounds”** mean semi-solid materials which are applied by hand application methods and are used to aerodynamically smooth exterior vehicle surfaces or fill cavities such as bolt hole accesses. A material shall not be classified as a caulking and smoothing compound if it can also be classified as a sealant.

**“Chemical Agent-Resistant Coating”** means any exterior topcoat designed to withstand exposure to chemical warfare agents or the decontaminants used on these agents.

**“Chemical Milling Maskant”** means any coating that is applied directly to aluminum components to protect surface areas when chemical milling the component with a Type I or Type II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant. This definition does not include bonding maskants, critical use and line sealer maskants, and seal coat maskants. Additionally, maskants that must be used with a combination of Type I or II etchants and any of the above types of maskants (i.e., bonding, critical use and line sealer, and seal coat) are not included. Maskants that are defined as specialty coatings are not included under this definition. Section C provides definitions of Type I and Type II etchants.

**“Cleaning Operation”** means collectively spray-gun, hand-wipe, and flush cleaning operations.

**“Cleaning Solvent”** means any liquid material used for hand-wipe, spray gun, or flush cleaning. This definition does not include any solution that contains no reactive organic compounds and no toxic air contaminants.

**“Clear Coating”** means a transparent coating usually applied over a colored opaque coating, metallic substrate, or placard to give improved gloss and protection to the color coat. In some cases, a clear coat refers to any transparent coating without regard to substrate.

**“Coating”** means any material that is applied to the surface of an aerospace vehicle or component to form a decorative, protective, or functional solid film, or the solid film itself. Adhesives, sealants, and lubricative material are types of specialty coatings.

**“Commercial Exterior Aerodynamic Structure Primer”** means any primer used on aerodynamic components and structures that protrude from the fuselage, such as wings and attached components, control surfaces, horizontal stabilizers, vertical fins, wing-to-body fairings, antennae, and landing gear and doors, for the purpose of extended corrosion protection and enhanced adhesion.

**“Commercial Interior Adhesive”** means any material used in the bonding of passenger cabin interior components. These components must meet the Federal Aviation Administration fireworthiness requirements.

**“Compatible Substrate Primer”** includes two categories: **“compatible epoxy primer”** and **“adhesive primer.”** **“Compatible epoxy primer”** means any primer that is compatible with the filled elastomeric coating and is epoxy based. The compatible substrate primer is an epoxy-polyamide primer used to promote adhesion of elastomeric coatings such as impact-resistant coatings. **“Adhesive primer”** means any coating that (1) inhibits corrosion and serves as a primer applied to bare metal surfaces or prior to adhesive application, or (2) is applied to surfaces that can be expected to contain fuel. Fuel tank coatings are excluded from this category.

**“Compliant Material”** means any coating, stripper, or solvent that has a reactive organic compound content or composite partial pressure that complies with the applicable limit in Sections D.1, D.2, or J.1

**“Confined Space”** means any space that (1) is large enough and so configured that an employee can bodily enter and perform assigned work; (2) has limited or restricted means for entry or exit (for example, fuel

tanks, fuel vessels, and other spaces that have limited means of entry); and (3) is not suitable for continuous employee occupancy.

**“Contact Bond Adhesive” or “Contact Adhesive”** means any adhesive intended by the manufacturer to adhere to itself instantaneously upon contact. The adhesive is applied to both adherends and allowed to become dry, which develops a bond when the adherends are brought together without sustained pressure, for application to both surfaces to be bonded together, is allowed to dry before the two surfaces are placed in contact with each other, forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other, and does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces. Contact adhesive does not include rubber cements that are primarily intended for use on paper substrates. Contact adhesive also does not include vulcanizing fluids that are designed and labeled for tire repair only.

**“Contact Bond Adhesive-Specialty Substrates” or “Specialty Contact Adhesive”** means any contact adhesive that is intended by the manufacturer to be used for the bonding of nonporous substrates to each other, the bonding of decorative laminate in post-forming application, the bonding of decorative laminate to metal, melamine-covered board, or curved surfaces, or the bonding of any substrate to metal, rubber, rigid plastic, or wood veneer not exceeding 1/16 inch in thickness.

**“Control”** means the reduction, by destruction or removal, of the amount of affected pollutants in a gas stream prior to discharge to the atmosphere.

**“Control System”** means any combination of pollutant capture system(s) and control device(s) used to reduce discharge to the atmosphere of reactive organic compound or toxic air contaminant emissions generated by a regulated operation.

**“Corrosion Prevention System”** means any coating system that provides corrosion protection by displacing water and penetrating mating surfaces, forming a protective barrier between the metal surface and moisture. Coatings and compounds containing oils or waxes are excluded from this category.

**“Critical Use and Line Sealer Maskant”** means any temporary coating, not covered under other maskant categories, used to protect selected areas of aerospace parts from strong acid or alkaline solutions such as those used in anodizing, plating, chemical milling and processing of magnesium, titanium, or high-strength steel, high-precision aluminum chemical milling of deep cuts, and aluminum chemical milling of complex shapes. Materials used for repairs or to bridge gaps left by scribing operations (i.e., line sealer) are also included in this category.

**“Cryogenic Flexible Primer”** means any primer designed to provide corrosion resistance, flexibility, and adhesion of subsequent coating systems when exposed to loads up to and surpassing the yield point of the substrate at cryogenic temperatures (minus 275 degrees Fahrenheit and below).

**“Cryoprotective Coating”** means any coating that insulates cryogenic or subcooled surfaces to limit propellant boil-off, maintain structural integrity of metallic structures during ascent or re-entry, and prevent ice formation.

**“Cyanoacrylate Adhesive”** means any fast-setting, single component adhesive that cures at room temperature. Also known as "super glue."

**“Depainting”** means the removal of a permanent coating from the outer surface of an aerospace vehicle or component.

**“Depainting Operation”** means the use of a chemical agent, media blasting, or any other technique to remove permanent coatings from the outer surface of an aerospace vehicle or components. The depainting operation includes washing of the aerospace vehicle or component to remove residual stripper, media, or coating residue.

3. ~~“Detailing or Touch-up Guns” mean any are~~ small air spray equipment, including air brushes, that operate at no greater than 5 ~~CFM-cubic feet per minute~~ air flow and no greater than 50 pounds per square inch gauge ~~(Psig)~~ air pressure and are used to coat small products or portions of products.

“Dip Coat Application” means any process in which a substrate is immersed in a solution (or dispersion) containing the coating material, and then withdrawn.

“Dry Lubricative Material” means any coating consisting of lauric acid, cetyl alcohol, waxes, or other non-cross linked or resin-bound materials which act as a dry lubricant.

4. ~~“Interior Topcoat” means a topcoat used in habitable interior spaces of aircraft.~~

5. ~~“Electric-/or Radiation-Effect Coatings” means an electrically conductive or insulative coating, or coatings used on radar and antennae enclosures~~ any coating or coating system engineered to interact, through absorption or reflection, with specific regions of the electromagnetic energy spectrum, such as the ultraviolet, visible, infrared, or microwave regions. Uses include, but are not limited to, lightning strike protection, electromagnetic pulse protection, and radar avoidance.

“Electrodeposition” means the application of a coating using a water-based electrochemical bath process. The component being coated is immersed in a bath of the coating. An electric potential is applied between the component and an oppositely charged electrode hanging in the bath. The electric potential causes the ionized coating to be electrically attracted, migrated, and deposited on the component being coated.

“Electrostatic Discharge and Electromagnetic Interference Coating” means any coating applied to space vehicles, missiles, aircraft radomes, and helicopter blades to disperse static energy or reduce electromagnetic interference.

6. ~~“Electrostatic Application” means using a sufficient charging of atomized paint droplets to cause deposition by electrostatic attraction. This application requires a minimum 60kV power supply.~~

“Elevated-Temperature Skydrol-Resistant Commercial Primer” means any primer applied primarily to commercial aircraft (or commercial aircraft adapted for military use) that must withstand immersion in phosphate-ester (PE) hydraulic fluid (Skydrol 500b or equivalent) at the elevated temperature of 150 degrees Fahrenheit for 1,000 hours.

“Epoxy Polyamide Topcoat” means any coating used where harder films are required or in some areas where engraving is accomplished in camouflage colors.

7. ~~“Exempt Organic Compounds” means those compounds listed as exceptions in the definition of “Reactive Organic Compounds” in Rule 102.~~

“Exterior Primer” means the first layer and any subsequent layers of identically formulated coating applied to the exterior surface of an aerospace vehicle or component where the component is used on the exterior of the aerospace vehicle. Exterior primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent exterior topcoats. Coatings that are defined as specialty coatings are not included under this definition.

8. ~~“Extreme Performance Interior Topcoat” means a topcoat used in interior spaces of aircraft areas requiring a fluid, stain, or nicotine barrier.~~

“Fastener Manufacturer” means any stationary source that coats aircraft fasteners, such as pins, collars, bolts, nuts, and rivets, with solid-film lubricants for distribution.

“Fastener Sealant” means any sealant applied to a device used to join two or more parts together.



9. ~~“Fire-Insulation-Resistant (Interior) Coating” means: a coating used to provide a layer of insulation in the event of an aircraft or engine fire.~~

1. For civilian aircraft, any coating used on passenger cabin interior parts that are subject to the Federal Aviation Administration fireworthiness requirements.
2. For military aircraft, any coating used on parts that are subject to the flammability requirements of MIL-STD-1630A and MIL-A-87721.
3. For space applications, any coating used on parts that are subject to the flammability requirements of SE-R-0006 and SSP 30233.

“Flexible Primer” means any primer that meets flexibility requirements such as those needed for adhesive bond primed fastener heads or on surfaces expected to contain fuel. The flexible coating is required because it provides a compatible, flexible substrate over bonded sheet rubber and rubber-type coatings as well as a flexible bridge between the fasteners, skin, and skin-to-skin joints on outer aircraft skins. This flexible bridge allows more topcoat flexibility around fasteners and decreases the chance of the topcoat cracking around the fasteners. The result is better corrosion resistance.

“Flight Test Coating” means any coating applied to aircraft other than missiles or single-use aircraft prior to flight testing to protect the aircraft from corrosion and to provide required marking during flight test evaluation.

“Flow Coat Application” means any coating application system, with no air supplied to the nozzle, where paint flows over the part and the excess coating drains back into the collection system.

“Flush Cleaning” means the removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component or application equipment by passing solvent over, into, or through the item being cleaned. The solvent may simply be poured into the item being cleaned and then drained, or be assisted by air or hydraulic pressure, or by pumping. Hand-wipe cleaning operations where wiping, scrubbing, mopping, or other hand actions are used are not included.

“Fuel Tank Adhesive” means any adhesive used to bond components exposed to fuel and must be compatible with fuel tank coatings.

10. ~~“Fuel Tank Coating” means any coating applied to the interior of a fuel tank components or to fuel wetted areas of aircraft to protect it from for the purpose of corrosion and/or bacterial growth inhibition and to assure sealant adhesion in extreme environmental conditions.~~

11. ~~“Grams of ROC Reactive Organic Compound per Liter of Coating, Less Water and Less Exempt Compounds” means the weight of ROC-reactive organic compound per combined volume of ROC-reactive organic compound and coating solids and can be calculated by the following equation:~~

$$\frac{\text{Grams}(lb) \text{ of ROC} / l(gal) \text{ of coating}}{= \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}}$$

$$\frac{\text{Grams of reactive organic compounds per liter of coating, less water and less exempt compounds}}{= \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}}$$

Where:

$W_s$	=	Weight of volatile compounds <del>(including water)</del> in grams
$W_w$	=	Weight of water in grams
$W_{es}$	=	Weight of exempt <del>organic</del> compounds in grams
$V_m$	=	Volume of material in liters
$V_w$	=	Volume of water in liters

$V_{es}$  = Volume of exempt ~~organic~~ compounds in liters

For aerospace coatings that contain reactive diluents, the grams of reactive organic compound per liter of coating, less water and less exempt compounds, shall be calculated by the following equation:

$$\frac{\text{Grams of reactive organic compounds per liter of coating, less water and less exempt compounds}}{= \frac{W_{rs} - W_{rw} - W_{re}}{V_{rm} - V_{rw} - V_{re}}}$$

Where:  $W_{rs}$  = Weight of volatile compounds not consumed during curing in grams  
 $W_{rw}$  = Weight of water not consumed during curing in grams  
 $W_{re}$  = Weight of exempt compounds not consumed during curing in grams  
 $V_{rm}$  = Volume of material not consumed during curing in liters  
 $V_{rw}$  = Volume of water not consumed during curing in liters  
 $V_{re}$  = Volume of exempt compounds not consumed during curing in liters

**12. “Hand Application Method”** means the application of a surface coating by manually held non-mechanically operated equipment. Such equipment includes paint brush, hand-roller, trowel, spatula, dauber, rag or sponge.

**“Hand-Wipe Cleaning Operation”** means the removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component by physically rubbing it with a material such as a rag, paper, or cotton swab that has been moistened with a cleaning solvent.

**13. “High Temperature Coating”** means any coating that, during normal use, must be designed to withstand temperatures in excess of more than 350°F degrees Fahrenheit.

**14. “High Volume Low Pressure Spraying”** means using spray equipment with air pressure between 0.1 and 10.0 psi and air volume greater than 15.5 cfm per spray gun.

**“Insulation Covering”** means any material that is applied to foam insulation to protect the insulation from mechanical or environmental damage.

**“Interior Topcoat”** means any topcoat used in habitable interior spaces of aircraft.

**“Intermediate Release Coating”** means any thin coating applied beneath topcoats to assist in removing the topcoat in repainting operations and generally to allow the use of less hazardous repainting methods.

**“Lacquer”** means any clear or pigmented coating formulated with a nitrocellulose or synthetic resin to dry by evaporation without a chemical reaction. Lacquers are resolvable in their original solvent.

**“Limited Access Space”** means any internal surfaces or passages of an aerospace vehicle or component that cannot be reached without the aid of an airbrush or a spray gun extension for the application of coatings.

**15. “Maskant Chemical Processing”** means a coating applied directly to a part to protect surface areas when chemical milling, anodizing, aging, bonding, plating, etching and/or performing other chemical operations on the surface of the part.

**“Long Term Adhesive Bonding Primer”** means any adhesive bonding primer that has met the aircraft manufacturers’ required performance characteristics following 6,000 hours testing, used for metal to structural core bonding, and with an adhesive that is specified to be cured at a temperature of 350 degrees Fahrenheit plus or minus 10 degrees Fahrenheit.

**“Metalized Epoxy Coating”** means any coating that contains relatively large quantities of metallic pigmentation for appearance and/or added protection.

**“Mold Release”** means any coating applied to a mold surface to prevent the molded piece from sticking to the mold as it is removed.

**“Natural Draft Opening”** means any opening in a room, building, or total enclosure that remains open during operation of the facility and that is not connected to a duct in which a fan is installed. The rate and direction of the natural draft through such an opening is a consequence of the difference in pressures on either side of the wall containing the opening.

**“Non-Complying Coating”** means a coating with a reactive organic compound content above a limit specified in Section D.1.

**“Noncompliant Material”** means any coating, stripper, or solvent that has a reactive organic compound content or composite partial pressure that does not comply with the applicable limit in Sections D.1, D.2, or J.1.

**“Nonstructural Adhesive”** means any adhesive that bonds nonload bearing aerospace components in noncritical applications and is not covered in any other specialty adhesive categories.

**“Optical Anti-Reflective Coating”** means any coating with a low reflectance in the infrared and visible wavelength ranges that is used for antireflection on or near optical and laser hardware.

**“Part Marking Coating”** means any coatings or inks used to make identifying markings on materials, components, and/or assemblies. These markings may be either permanent or temporary.

16. ~~\_\_\_\_\_~~ **“Pretreatment Wash Primer Coating”** means a any organic coating which that contains a small quantity of at least 0.5 percent acids by weight for surface etching and is applied directly to metal or composite surfaces to provide surface etching, corrosion resistance, adhesion, and ease of stripping.

17. ~~\_\_\_\_\_~~ **“Primer”** means a the first layer and any subsequent layers of identically formulated coating applied directly to a part for purposes of to the surface of an aerospace vehicle or component. Primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and/or adhesion of subsequent coatings. Primers that are defined as specialty coatings are not included under this definition.

**“Radome”** means the nonmetallic protective housing for electromagnetic transmitters and receivers (e.g., radar, electronic countermeasures, etc.).

**“Rain Erosion-Resistant Coating”** means any coating or coating system used to protect the leading edges of parts such as flaps, stabilizers, radomes, engine inlet nacelles, etc. against erosion caused by rain impact during flight.

**“Reactive Diluent”** means a liquid which is a reactive organic compound during application and one in which, through chemical and/or physical reactions, such as polymerization, 20 percent or more of the reactive organic compound becomes an integral part of a finished material.

**“Remanufactured Commercial Aircraft Part”** means any aerospace component that is built as a spare part or replacement part subject to an existing commercial aircraft specification.

18. ~~\_\_\_\_\_~~ **“Repair”** means recoating of previously coated product due to damage to the coating following normal painting operations.

**“Rocket Motor Bonding Adhesive”** means any adhesive used in rocket motor bonding applications.

**“Rocket Motor Nozzle Coating”** means any catalyzed epoxy coating system used in elevated temperature applications on rocket motor nozzles.

**“Rubber-Based Adhesive”** means any quick setting contact cement that provides a strong, yet flexible bond between two mating surfaces that may be of dissimilar materials.

**“Scale Inhibitor”** means any coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of scale.

**“Screen Print Ink”** means any ink used in screen printing processes during fabrication of decorative laminates and decals.

**“Seal Coat Maskant”** means any overcoat applied over a maskant to improve abrasion and chemical resistance during production operations.

19. **“Sealant”** means any coating material used to prevent the intrusion applied for the purpose of filling voids and providing a barrier against penetration of water, fuel, air, or other fluids or vapors liquids or solids from certain areas of aerospace vehicles or components. There are two categories of sealants: extrudable/rollable/brushable sealants and sprayable sealants. Sealants are a type of specialty coating.

20. **“Sealant Bonding Primer”** means a coating applied in a very thin film to a part or product for the purpose of providing a primer for a subsequent coat of silicone sealant.

**“Sealant Product”** means any sealant and sealant primer. Sealant products are a type of coating.

21. **“Self Priming Self-Priming Topcoat”** means any coating topcoat that is applied directly to a part or product that is not subsequently overcoated an uncoated aerospace vehicle or component for purposes of corrosion prevention, environmental protection, and functional fluid resistance. More than one layer of identical coating formulation may be applied to the vehicle or component.

**“Short Term Adhesive Bonding Primer”** means any adhesive bonding primer that has met the manufacturers’ required performance characteristics following 1,000 hours testing, used for metal to metal and metal to structural core bonding, and with an adhesive which is specified to be cured at a temperature of 350 degrees Fahrenheit plus or minus 10 degrees Fahrenheit.

**“Silicone Insulation Material”** means any insulating material applied to exterior metal surfaces for protection from high temperatures caused by atmospheric friction or engine exhaust. These materials differ from ablative coatings in that they are not “sacrificial.”

**“Solid Film Lubricant”** means any very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum, graphite, polytetrafluoroethylene (PTFE), or other solids that act as a dry lubricant between faying surfaces.

**“Solids”** mean the non-volatile portion of the coating which after drying makes up the dry film.

**“Solvent”** means any liquid containing any reactive organic compound or any toxic air contaminant, which is used as a diluent, thinner, dissolver, viscosity reducer, cleaning agent, drying agent, preservative, or other similar uses.

**“Solvent Cleaning”** means any activity, operation, or process (including, but not limited to, surface preparation, cleanup, or wipe cleaning) performed outside of a solvent cleaning machine, that uses solvent to remove uncured adhesives, uncured coatings, uncured inks, uncured polyester resin material, uncured sealant, or other contaminants, including, but not limited to, dirt, soil, oil, lubricants, coolants, moisture, fingerprints, and grease, from parts, products, tools, machinery, application equipment, and general work areas. Cleaning spray equipment used for the application of coating, adhesive, ink, polyester resin material, or sealant is also considered to be solvent cleaning irrespective of the spray material being cured.

**“Solvent Cleaning Machine”** means any device or piece of equipment that uses solvent liquid or vapor to remove soils, moisture, or other contaminants from the surfaces of materials. Types of solvent cleaning

machines include, but are not limited to, batch cold, batch vapor, in-line cold, in-line vapor, remote reservoir, and gas-path solvent cleaners. Buckets, pails, and beakers with capacities of 3.785 liters (1.00 gallon) or less are not considered solvent cleaning machines. However, the use of such a container or similar containers (e.g., hand-held spray bottles) with a liquid solvent for cleaning is considered to be solvent cleaning. Any device or piece of equipment used exclusively for stripping shall not be considered to be a solvent cleaning machine.

“Sonic and Acoustic Applications” means the use of aerospace materials on aerospace components that are subject to mechanical vibration and/or sound wave cavitation.

22.——“**Space Vehicle Coating**” means any coating applied to vehicles designed to travel beyond the earth's atmosphere.

“Specialized Function Coating” means any coating that fulfills extremely specific engineering requirements that are limited in application and are characterized by low volume usage. This category excludes coatings covered in other Specialty Coating categories.

“Specialty Coating” means any coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection. The reactive organic compound content limit for the individual specialty coatings are listed in Section D.1, Table 337-2. Definitions for each specialty coating category are provide in Section C.

“Spray Gun” means any device that atomizes a coating or other material and projects the particulates or other material onto a substrate.

23.——“**Stripper**” means ~~a precursor organic compound applied to remove temporary coating, maskant for chemical processing, paint or residue~~ any liquid that is applied to a surface to remove cured or dried coatings such as primers, adhesives (e.g., debonding or unglueing), topcoats, and temporary protective coatings.

24.——“**Structural Autoclavable Adhesive**” means ~~any coating-adhesive which is applied for the purpose of bonding structural components together~~ used to bond load-carrying aerospace components that is cured by heat and pressure in an autoclave.

“Structural Nonautoclavable Adhesive” means any adhesive cured under ambient conditions that is used to bond load-carrying aerospace components or for other critical functions, such as nonstructural bonding in the proximity of engines.

“Surface Preparation” means the removal of contaminants from the surface of an aerospace vehicle or component or the activation or reactivation of the surface in preparation for the application of a coating.

25.——“**Temporary Protective Coating**” means ~~any coating applied to a part to protect it from mechanical and environmental damage during manufacturing~~ provide scratch or corrosion protection during manufacturing, storage, or transportation. Two types include peelable protective coatings and alkaline removable coatings. These materials are not intended to protect against strong acid or alkaline solutions. Coatings that provide this type of protection from chemical processing are not included in this category.

“Thermal Control Coating” means any coating formulated with specific thermal conductive or radiative properties to permit temperature control of the substrate.

26. —“**Topcoat**” means any coating applied over a primer ~~or intermediary coating on an aerospace vehicle or component for purposes such as~~ appearance, identification, camouflage, or protection. Coatings that are defined as specialty coatings are not included under this definition.

27. —“**Touch-up-Up**” means that portion of the coating operation which is separate from the main coating process but necessary to cover minor imperfections or to achieve coverage as required.

“**Touch-Up and Repair**” means that portion of the coating operation that is the incidental application of coating used to cover minor imperfections in the coating finish or to achieve complete coverage. This definition includes out-of-sequence or out-of-cycle coating.

28. —“**Transfer Efficiency**” means the ratio of the weight of coating solids adhering to the object being coated to the weight of coating solids used in the application process, expressed as a percentage.

“**Type I Chemical Milling Maskant**” see the “**Chemical Milling Maskant**” definition.

“**Type II Chemical Milling Maskant**” see the “**Chemical Milling Maskant**” definition.

“**Type I Etchant**” means any chemical milling etchant that contains varying amounts of dissolved sulfur and does not contain amines.

“**Type II Etchant**” means any chemical milling etchant that is a strong sodium hydroxide solution containing amines.

“**Viscosity**” means the internal friction of a liquid that makes it resistant to flow.

“**Wet Fastener Installation Coating**” means any primer or sealant applied by dipping, brushing, or daubing to fasteners that are installed before the coating is cured.

29. —“**Wing Coating**” means any corrosion-resistant coating that is resilient enough to withstand the flexing of the ~~aircraft~~ wings.

#### D. Requirements — Reactive Organic Compound (ROC) Limits

1. ~~A~~ No person shall ~~not~~ apply any coating or ~~specify-solicit~~ the use of any coating on any aerospace vehicle or component subject to the provisions of this rule, which, as applied, ~~emits or may emit~~ contains reactive organic compounds ~~into the atmosphere~~ in excess of the limits shown in the tables below. These limits are expressed in grams of reactive organic compound per liter ~~or pounds per gallon~~ of coating, less water and ~~less~~ exempt ~~organic~~ compounds:

**Table 337-1: Reactive Organic Compound Content Limits for Coatings Other than Specialty Coatings (Grams of Reactive Organic Compound per Liter, Less Water and Less Exempt Compounds)**

<u>Coating Type</u>	<u>ROC Limit</u>
	<u>Effective [date of amended rule adoption]</u>
<u>Exterior Primer</u>	<u>350</u>
<u>Primer</u>	<u>350</u>
<u>Self-Priming Topcoat</u>	<u>420</u>
<u>Topcoat</u>	<u>420</u>
<u>Type I Chemical Milling Maskant</u>	<u>250</u>
<u>Type II Chemical Milling Maskant</u>	<u>160</u>

**Table 337-2: Reactive Organic Compound Content Limits for Specialty Coatings**  
**(Grams of Reactive Organic Compound per Liter, Less Water and Less Exempt Compounds)**

Coating Type	ROC Limit	
	<u>g/l Effective Before [24 months after the date of amended rule adoption]</u>	<u>lb/gal Effective On and After [24 months after the date of amended rule adoption]</u>
<u>Ablative Coating</u>	<u>600</u>	<u>600</u>
<u>Adhesion Promoter</u>	<u>850</u>	<u>250</u>
<u>Adhesive Bonding Primers:</u>	<u>250</u>	<u>25</u>
<u>New Commercial Aircraft</u>	<u>250</u>	<u>250</u>
<u>All Military Aircraft</u>	<u>805</u>	<u>805</u>
<u>Remanufactured Commercial Aircraft Parts</u>	<u>805</u>	<u>805</u>
<u>Sonic and Acoustic Applications</u>	<u>805</u>	<u>805</u>
<u>Long Term</u>	<u>250</u>	<u>250</u>
<u>Short Term</u>	<u>250</u>	<u>250</u>
<u>Adhesives:</u>		
<u>Commercial Interior Adhesive</u>	<u>760</u>	<u>760</u>
<u>Cyanoacrylate Adhesive</u>	<u>1020</u>	<u>1020</u>
<u>Fuel Tank Adhesive</u>	<u>620</u>	<u>620</u>
<u>Nonstructural Adhesive</u>	<u>250</u>	<u>250</u>
<u>Rocket Motor Bonding Adhesive</u>	<u>890</u>	<u>890</u>
<u>Rubber-Based Adhesive</u>	<u>850</u>	<u>850</u>
<u>Structural Autoclavable Adhesive</u>	<u>50</u>	<u>50</u>
<u>Structural Nonautoclavable Adhesive</u>	<u>850</u>	<u>850</u>
<u>Antichafe Coating</u>	<u>600</u>	<u>420</u>
<u>Barrier Coating</u>	<u>420</u>	<u>420</u>
<u>Bearing Coating</u>	<u>620</u>	<u>620</u>
<u>Caulking and Smoothing Compounds</u>	<u>850</u>	<u>850</u>
<u>Chemical Agent-Resistant Coating</u>	<u>550</u>	<u>550</u>
<u>Clear Coating</u>	<u>520</u>	<u>520</u>
<u>Commercial Exterior Aerodynamic Structure Primer</u>	<u>350</u>	<u>350</u>
<u>Compatible Substrate Primer</u>	<u>350</u>	<u>350</u>
<u>Corrosion Prevention System Compound</u>	<u>710</u>	<u>710</u>
<u>Cryogenic Flexible Primer</u>	<u>350</u>	<u>350</u>
<u>Cryoprotective Coating</u>	<u>600</u>	<u>600</u>
<u>Dry Lubricative Material</u>		
<u>Fastener Manufacturing</u>	<u>120</u>	<u>4120</u>
<u>Nonfastener Manufacturing</u>	<u>675</u>	<u>5-6675</u>
<u>Electric- or Radiation-Effect</u>	<u>800</u>	<u>6-7800</u>
<u>Electrostatic Discharge and Electromagnetic Interference Coating</u>	<u>800</u>	<u>800</u>
<u>Elevated-Temperature Skydrol-Resistant Commercial Primer</u>	<u>350</u>	<u>350</u>
<u>Epoxy Polyamide Topcoat</u>	<u>660</u>	<u>660</u>
<u>Extreme Performance Interior Topcoat</u>	<u>420</u>	<u>3-5420</u>
<u>Fastener Sealant</u>	<u>675</u>	<u>600</u>

Coating Type	ROC Limit	
	<u>Effective Before [24 months after the date of amended rule adoption]</u>	<u>Effective On and After [24 months after the date of amended rule adoption]</u>
<del>Fire Insulation Coating</del>	<del>600</del>	5
<del>Fire-Resistant (Interior) Coating</del>	<del>600</del>	600
<del>Flexible Primer</del>	<del>350</del>	350
<u>Flight-Test Coatings:</u>		
<u>Missile or Single Use Aircraft</u>	<u>420</u>	<u>420</u>
<u>All Other</u>	<u>600</u>	<u>600</u>
<del>Fuel Tank Coating (Excluding Fuel Tank Adhesive)</del>	<del>720</del>	6
	<del>420</del>	420
<del>High-Temperature Coating</del>	<del>720</del>	<del>6720</del>
<del>Interior Topcoat</del>	<del>340</del>	<del>2.8340</del>
<u>Insulation Covering</u>	<u>740</u>	<u>740</u>
<u>Intermediate Release Coating</u>	<u>750</u>	<u>750</u>
<u>Lacquer</u>	<u>830</u>	<u>830</u>
<del>Maskant Chemical Processing</del>	<del>600</del>	5
<u>Maskants:</u>		
<u>Bonding Maskant</u>	<u>1,230</u>	<u>1,230</u>
<u>Critical Use and Line Sealer Maskant</u>	<u>1,020</u>	<u>1,020</u>
<u>Seal Coat Maskant</u>	<u>1,230</u>	<u>1,230</u>
<u>Metallized Epoxy Coating</u>	<u>700</u>	<u>700</u>
<u>Mold Release</u>	<u>780</u>	<u>780</u>
<u>Optical Anti-Reflective Coating</u>	<u>700</u>	<u>700</u>
<u>Part Marking Coating</u>	<u>850</u>	<u>850</u>
<del>Pretreatment Wash Primer Coating</del>	<del>400</del>	<del>3.3</del>
	<del>780</del>	<del>780</del>
<u>Primer</u>	<u>350</u>	<u>2.9</u>
<u>Rain Erosion-Resistant Coating</u>	<u>600</u>	<u>600</u>
<u>Rocket Motor Nozzle Coating</u>	<u>660</u>	<u>660</u>
<u>Scale Inhibitor</u>	<u>880</u>	<u>880</u>
<u>Screen Print Ink</u>	<u>840</u>	<u>840</u>
<del>Sealant</del>	<del>600</del>	5
<u>Extrudable/Rollable/Brushable Sealant</u>	<u>280</u>	<u>280</u>
<u>Sprayable Sealant</u>	<u>600</u>	<u>600</u>
<del>Sealant Bonding Primer</del>	<del>720</del>	6
<del>Self Priming Topcoat</del>	<del>420</del>	<del>3.5</del>
<u>Silicone Insulation Material</u>	<u>850</u>	<u>850</u>
<u>Solid Film Lubricants</u>		
<u>Fastener Manufacturing</u>	<u>250</u>	<u>250</u>
<u>Fastener Installation</u>	<u>880</u>	<u>880</u>
<u>Nonfastener Manufacturing</u>	<u>880</u>	<u>880</u>
<u>Space Vehicle Coating:</u>		
<u>Electrostatic-Discharge</u>	<u>800</u>	<del>6.7800</del>
<u>Other</u>	<u>1,000</u>	<del>8.31,000</del>
<u>Specialized Function Coating</u>	<u>890</u>	<u>890</u>
<u>Temporary Protective Coating</u>	<u>250</u>	<del>2.1250</del>



Coating Type	ROC Limit	
	<del>4</del> Effective Before [24 months after the date of amended rule adoption]	<del>14</del> gal Effective On and After [24 months after the date of amended rule adoption]
<del>Topcoat</del>	420	3.5
<del>Thermal Control Coating</del>	800	800
<del>Wet Fastener Installation Coating</del>	675	675
<del>Wing Coating</del>	750	6.3750

2. ~~A~~ No person shall ~~not~~ apply any stripper or ~~specify-solicit~~ the use of any stripper unless it complies with one or both of the following:
  - a. The stripper contains less than ~~400-300~~ grams/ of reactive organic compound per liter of ~~ROC~~ of material (2.50 pounds of reactive organic compound per gallon).
  - b. The stripper has a ~~true vapor~~ reactive organic compound composite partial pressure of ~~less than 10 mm Hg equal to or less than 9.5 millimeters of mercury~~ at ~~actual usage temperature~~ 20 degrees Celsius.
3. ~~Sources~~ A person may elect to use ~~an~~ add-on ~~exhaust control equipment system to achieve as an alternative to meeting the requirements compliance with the provisions of Sections D.1, D.2, E, and J, provided that the control equipment meets all of the applicable requirements of sections a. and b. below are met. Such control equipment must be approved in advance by the Control Officer.~~ Any person choosing to install such control equipment shall obtain an Authority to Construct from the District prior to installation.
  - a. ~~The control device shall reduce emissions from an emission collection system by at least 95 percent by weight.~~
  - b. ~~The emission collection system which collects and transports emissions to an air pollution control device shall collect at least 90 percent by weight of the emissions generated by the sources of emissions.~~
    - a. ~~The overall efficiency (the capture efficiency multiplied by the control device efficiency) of the total system shall not be less than 85.5 percent, by weight. Alternatively, the control device reactive organic compound exhaust concentration shall not exceed 10 parts per million by volume as propane or other limit approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.~~
    - b. ~~Combustion temperature shall be continuously monitored when operating a thermal incinerator.~~
    - c. ~~Inlet and exhaust gas temperatures shall be continuously monitored when operating a catalytic incinerator.~~
    - d. ~~Control device efficiency shall be continuously monitored when operating a carbon adsorber or a control device other than a thermal or catalytic incinerator.~~
    - e. ~~Compliance through the use of an add-on control system shall not result in affected pollutant emissions in excess of the affected pollutant emissions that would result from compliance with Sections D.1, D.2, E, and J.~~

**E. Requirements — Application Equipment**

~~A~~No person shall ~~not~~ apply coatings subject to ~~the provisions of~~ this rule ~~except by using properly operated unless the application is performed with~~ equipment ~~and by operating according to the manufacturers operating guidelines~~. In addition, except as provided in Section D.3, the application method employed shall be one of the following:

1. Electrostatic spray application, or
2. Flow coat application, or
3. Dip coat application, or
4. Roll coater, or
45. High volume, low pressure spraying ~~(HVLPP)~~ equipment, or
56. Electrodeposition, or
67. Hand application methods, or
78. Detailing or touch-up guns, or
89. Any other ~~coating~~ application method ~~that approved by the Control Officer, the Air Resources Board, and the Environmental Protection Agency, achieves that has a~~ coating transfer efficiency ~~of at least equivalent to or greater than~~ 65 percent ~~efficiency as demonstrated measured by using~~ the test method specified in Section I.4.
10. Except as otherwise provided in Section E.11, air-atomized spray may only be used for the application of contact adhesives or specialty contact adhesives.
11. For adhesive products and sealant products with an as applied viscosity of 200 centipoise or greater, airless spray, air-assisted airless, and air-atomized spray may be used.

**F. Requirements — ~~Closed Containers~~General Operating**

Any person who owns, operates, or uses any surface coating or repainting equipment for any aerospace vehicle or component coating operation shall meet the following requirements:

1. All ~~ROC reactive organic compound~~-containing materials, used or unused, including but not limited to surface coatings, thinners, cleanup solvents, ~~strippers~~, or surface preparation materials shall be stored ~~and disposed of in closed nonabsorbent and nonleaking containers equipped with tight-fitting covers~~. All covers shall be in place unless adding material to or removing material from the containers, ~~and opened only during extraction or introduction of material for mixing, use or storage~~ the containers are empty, or doing maintenance/inspection of the containers.
2. All application equipment, ventilation system, and emission control equipment shall be installed, operated, and maintained consistent with the manufacturer's specifications.
3. Waste solvent, waste solvent residues, and any other waste material that contains reactive organic compounds shall be disposed of by one of the following methods:
  - a. A commercial waste solvent reclamation service licensed by the State of California.
  - b. At a facility that is federally or state licensed to treat, store or dispose of such waste.

- c. Recycling in conformance with Section 25143.2 of the California Health and Safety Code.
4. All covers, valves, drain plugs, and other closure devices designed to reduce surface coating, stripper, or solvent evaporation shall not be removed or opened except to process work or to perform monitoring, inspections, maintenance, or repairs that require the removal of the covers or other closure devices.
5. Any surface coating, stripper, or solvent spills shall be wiped up immediately and the used absorbent material (e.g., cloth, paper, sand, sawdust, etc.) shall be stored in closed containers that are handled in accordance with Section F.1.
6. The handling and transfer of coatings, strippers, and cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent coatings, strippers, and cleaning solvents shall be conducted in such a manner to minimize spills.
7. Containers used to store coating, solvent, or any waste material that contains reactive organic compounds subject to this rule shall be marked or clearly labeled indicating the name of the material they contain.

**G. Requirements — Manufacturer Labeling**

1. Each container of any coating subject to this rule shall display the date on which the contents were manufactured or a code indicating the date of manufacture. Each manufacturer of such coatings shall file with the Air Pollution Control Officer and the Executive Officer of the California Air Resources Board an explanation of each code.
2. Each container of any coating subject to this rule shall display a statement of the manufacturer's recommendation regarding thinning of the coating. This recommendation shall not apply to the thinning of coatings with water. The recommendation shall specify that the coating is to be employed without thinning or diluting under normal environmental and application conditions unless any thinning recommended on the label for normal environmental and application conditions does not cause a coating to exceed its applicable standard for reactive organic compound content.
3. Each container of any coating subject to this rule shall display the maximum ROCreactive organic compound content of the coating, as applied, and after any thinning as recommended by the manufacturer. ROC-Reactive organic compound content shall be displayed as g/grams per liter or lb/galpounds per gallon of coating, less water and less exempt organic-compounds. The VOC volatile organic compound content may be displayed instead of the ROC-reactive organic compound content as long as the manufacturer's definition of VOC-volatile organic compound is consistent with the definition of ROC-reactive organic compound contained in District Rule 102, Definitions. ROC-Reactive organic compound content displayed may be calculated using product formulation data and the formula in Section C, or may be determined using the test method in Section I.1.

**H. Requirements — Recordkeeping**

Any Persons-person subject to this rule shall comply with the following requirements. Any owner or operator of any stationary source comprised of more than one facility may comply with the following requirements on a facility basis.

1. Maintain a current listingfile of all ROCreactive organic compound-containing materials in use at their facilitythe stationary source subject to this rule. This listing shall include: The file shall

provide all of the data necessary to evaluate compliance and shall include the following information, as applicable:

- a. material name and manufacturer identification (e.g., brand name, stock identification number);
- b. application method;
- c. material type, ~~and manufacturer's~~ specific use instructions (e.g., specific use for which the material is intended), type operation (e.g., coating, stripping, or solvent cleaning), and, for coating operations, the coating type from Table 337-1 or Table 337-2 and equipment coated;
- d. specific mixing ~~ratio~~ data (e.g., component volumes or weights) of each component for each batch sufficient to determine the mixture's reactive organic compound content;
- e. the corresponding reactive organic compound limit(s) from Sections D.1, D.2, and J.1 and the ~~maximum~~ actual as applied ~~ROC~~ reactive organic compound content of coating used. If complying using the "reactive organic compound composite partial pressure" method only, provide the actual reactive organic compound composite partial pressure of the materials used ~~less water and less exempt compounds as applied (including thinning solvents)~~; and
- f. current coating, stripper, and solvent manufacturer specification sheets, Material Safety Data Sheets, product data sheets, or air quality data sheets, which list the reactive organic compound content of each material in use at the stationary source subject to this rule. Compliance with this provision may be done by ensuring the manufacturer's specifications are listed on the product container.

~~2. Current coating manufacturer specification sheets, Material Safety Data Sheets or current air quality data sheets, which list the ROC content of each material in use at their facility, shall be available for review on site.~~

~~32. Maintain purchase records identifying the type or name and the volume of material purchased for each ~~ROC~~ reactive organic compound-containing material purchased for use at the stationary source. The records shall include, but not be limited to, the following:~~

- a. material name and manufacturer identification (e.g., brand name, stock identification number); and
- b. material type (e.g., coating type from Table 337-1 or Table 337-2, cleanup solvent, stripper, etc.).

~~3. Maintain records of the disposal method each time waste solvent, waste solvent residue, or other waste material that contain reactive organic compounds is removed from the stationary source for disposal.~~

~~4. Maintain~~ For each material maintained in response to Section H.1.a, maintain at a minimum, on a monthly basis for compliant material and on a daily basis for noncompliant material, a record of the following:

- a. volume used (gallons per day, gallons per month);
- b. ~~ROC~~ reactive organic compound content (grams per liter or pounds per gallon); and

c. ~~and resulting ROC~~reactive organic compound emissions (pounds per day, pounds per month)~~of each ROC-containing material used.~~

~~These records shall be summarized for each calendar year and submitted to the District by March 1 of the following year.~~

5. ~~Operators of facilities~~For any stationary source that uses non-compliant coating materials with compliance achieved through the operation of emission control equipment as an alternative to meeting the requirements of Sections D.1, D.2, E, or J, shall maintain daily records of key operating parameter values and maintenance procedures ~~which that~~ demonstrate continuous operation and compliance of the emission control ~~device system~~ during periods of emission producing activities shall be maintained. These parameters shall include, but not be limited to:
  - a. Hours of operation;
  - b. All maintenance work that requires the emission control system to be shut down;
  - c. All information needed to demonstrate continuous compliance with Section D.3, such as temperatures, pressures, and/or flow rates.
6. ~~All~~Any records required ~~by to be maintained pursuant to this rule shall be kept on site for at least 2 years unless a longer retention period is otherwise required by state or federal regulation(s). Such records shall be readily available for shall be retained and available for inspection by the Control Officer or designated representative upon request for the previous 36 month period and review by the District.~~
7. Any person claiming an exemption under Section B.1 shall maintain:
  - a. Daily records of the volumes in gallons of non-complying coating materials used by each separate formulation at the stationary source.
  - b. Annual running totals, from January 1 of each calendar year, of the volume in gallons of non-complying coating materials used at the stationary source for:
    - 1) Each separate formulation.
    - 2) All formulations.

#### **I. Requirements – Compliance Provisions and Test Methods**

1. ~~ROC content of a coating~~Coatings and solvent reactive organic compound content shall be determined measured using EPA by the Environmental Protection Agency Reference Method 24, its constituent methods, or an equivalent method approved by the Control Officer, ARB and EPA Environmental Protection Agency, the Air Resources Board, and the Control Officer. The determination of exempt compounds shall be performed in accordance with ASTM D 4457-85/1991, "Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph," ASTM International. Alternatively, determination of exempt compounds may be performed in accordance with the South Coast Air Quality Management District Method 303-91, "Determination of Exempt Compounds," August 1996. The reactive organic compound content of materials containing 50 grams of reactive organic compound per liter or less shall be determined by the South Coast Air Quality Management District Method 313-91, "Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry," June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.

2. ~~Compliance with Section D.3.a~~ The control device efficiency for reactive organic compound emissions shall be determined by using ARB Method 100 or EPA Environmental Protection Agency Test Methods 25, 25A, the South Coast Air Quality Management District Method 25.1, "Determination of Total Gaseous Non-Methane Organic Emissions as Carbon," February 1991, or the South Coast Air Quality Management District Method 25.3, "Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources," March 2000, as applicable. Environmental Protection Agency Test Method 18 or Air Resources Board Method 422, "Exempt Halogenated VOCs in Gases," September 12, 1990, shall be used to determine emissions of exempt compounds. ~~or a method determined to be equivalent and approved by the Control Officer, ARB, and EPA.~~
3. ~~Compliance with Section D.3.b~~ The capture efficiency for reactive organic compound emissions shall be based on EPA Guidelines for Developing Capture Efficiency Protocols from 55 FR 26865, July 1, 1990 determined by verifying the use of a Permanent Total Enclosure and 100 percent capture efficiency as defined by Environmental Protection Agency Method 204, "Criteria for and Verification of a Permanent or Temporary Total Enclosure." Alternatively, if an Environmental Protection Agency Method 204 defined Permanent Total Enclosure is not employed, capture efficiency shall be determined using a minimum of three sampling runs subject to data quality criteria presented in the Environmental Protection Agency technical guidance document "Guidelines for Determining Capture Efficiency, January 9, 1995." Individual capture efficiency test runs subject to the Environmental Protection Agency technical guidelines shall be determined by:
  - a. The Temporary Total Enclosure approach of Environmental Protection Agency Methods 204 through 204F; or
  - b. The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency," May 1995;
4. ~~Compliance with Section E.8~~ Application equipment coating transfer efficiencies shall be determined-measured using South Coast Air Quality Management District Method "Spray Equipment Transfer Efficiency Test Procedure ~~of for~~ Equipment User," May 24, 1989.
5. ~~Compliance with Section D.2~~ Reactive organic compound composite partial pressures shall be determined-measured using ASTM D 2879-86 1997, "Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope," ASTM International, in combination with the formula in the Rule 102 definition of "reactive organic compound composite partial pressure," manufacturer's specified ~~vapor~~-reactive organic compound composite partial pressure, or an accepted scientific reference approved the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
6. The control device efficiency for toxic air contaminant emissions that are not reactive organic compounds shall be determined using:
  - a. an Environmental Protection Agency approved test method or methods, or
  - b. in the case where there is no Environmental Protection Agency approved test method, a District approved detection method applicable for each target toxics specie.
  - c. the Control Officer may require more than one test method on any emission control device where necessary to demonstrate that the overall efficiency is at least 85.5 percent by weight in reducing emissions of reactive organic compounds and/or toxic air contaminants. Any technique to convert "parts per million by volume" test method results to either 1) "parts per million by weight," or 2) "mass emission rates" (e.g., pounds per hour) shall first be approved by the Control Officer and, if such approval is not provided, then the technique shall not be used to show compliance with this rule.

7. The capture efficiency for toxic air contaminant emissions that are not reactive organic compounds shall be determined by using the methods described in Section I.3 modified in a manner approved by the District to quantify the mass of liquid or gaseous reactive organic compounds and/or toxic air contaminants.
8. The active and passive solvent losses from spray gun cleaning systems shall be determined using South Coast Air Quality Management District's, "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems," dated October 3, 1989. The test solvent for this determination shall be any lacquer thinner with a minimum reactive organic compound composite partial pressure of 105 millimeters of mercury at 20 degrees Celsius, and the minimum test temperature shall be 15 degrees Celsius.
9. Viscosity shall be determined by ASTM D 1084-88, "Standard Test Methods for Viscosity of Adhesives," ASTM International.
10. Emissions of reactive organic compounds from the exhaust of an emission control system shall be measured by the Environmental Protection Agency Method 25, in combination with Environmental Protection Agency Method 18 or the California Air Resources Board Method 422, "Exempt Halogenated VOCs in Gases," September 12, 1990 (to determine emissions of exempt compounds).
11. When more than one test method or set of test methods are specified for any testing, a test result showing an exceedance of any limit of this rule shall constitute a rule violation.
12. The Environmental Protection Agency test methods in effect on [date of amended rule adoption] shall be the test methods used to meet the requirements of this rule.

**J. Requirements – Solvent Cleaning Associated with Surface Coating of Aerospace Vehicles and Components**

Section J requirements shall apply to any person performing solvent cleaning associated with surface coating of aerospace vehicles or components, including, but not limited to, use of wipe cleaning cloths, hand-held spray bottles, squirt bottles, aerosol products, and the cleaning of application equipment. The following requirements become effective [one year from the date of amended rule adoption] and are in addition to the general operating requirements specified in Section E.

**1. Solvent Requirements**

Except when using an emission control system that meets the requirements of Section D.3, no person shall use any solvent to perform solvent cleaning which exceeds the following limits:

**a. When Performing Surface Preparation for Coating Application and Cleanup (Other than Spray Application Equipment Cleaning):**

- 1) 200 grams of reactive organic compound per liter (1.67 pounds of reactive organic compound per gallon) of material, or
- 2) reactive organic compound composite partial pressure of 45 millimeters of mercury at 20 degrees Celsius.

**b. When Performing Solvent Cleaning of Spray Application Equipment:** 25 grams of reactive organic compounds per liter (0.21 pounds of reactive organic compound per gallon) of material. In lieu of meeting the reactive organic compound-content limit, a person may use an enclosed cleaning system, or equipment that is proven to the satisfaction of the Control Officer to be equally effective as an enclosed cleaning system

at controlling emissions. "Equal effectiveness" of an alternative cleaning system shall be determined by the test method referenced in Section I.8 of this rule. If an enclosed cleaning system is used, it shall totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, and draining procedures, and it shall be used according to the manufacturer's recommendations and be closed when not in use.

2. **Cleaning Devices and Methods.** Except for solvent cleaning of spray application equipment, any person performing solvent cleaning with a solvent containing more than 25 grams of reactive organic compounds per liter of material shall use one or more of the following cleaning devices or methods:

- a. Wipe cleaning where solvent is dispensed to wipe cleaning materials from containers that are kept closed to prevent evaporation, except while dispensing solvent or replenishing the solvent supply, and where wipes are stored in closed containers to prevent evaporation when not in use;
- b. Application of solvent from hand-held spray bottles, squirt bottles, or other closed containers with a capacity of one liter or less; or
- c. Non-atomized solvent flow, dip, or flush cleaning method where pooling on surfaces being cleaned is prevented or drained, and all solvent runoff is collected in a manner that enables solvent recovery or disposal. The collection system shall be kept closed to prevent evaporation except while collecting solvent runoff or emptying the collection system.

#### **K. Compliance Schedule**

Any person who owns, operates, or uses any application equipment to surface coat any aerospace vehicles or components shall meet the following compliance schedule:

1. By [30 days from the date of amended rule adoption], comply with Section F, Requirements - General Operating.
2. By [six months from the date of amended rule adoption], comply with the recordkeeping provisions in the following Sections:
  - a. H.1.d - mixing data,
  - b. H.1.e - reactive organic compound content data,
  - c. H.2 - purchase records,
  - d. H.3 - waste disposal records, and
  - e. H.4 - daily records for noncompliant materials.
3. By [one year from the date of amended rule adoption], comply with the Section J and Section M requirements.
4. By [date of amended rule adoption], comply with all other provisions of this rule.

#### **L. Reporting Requirements**

Submittal of an annual report to the District is required if:

- A person holds a permit for equipment subject to the requirements of this rule, or



- A person is subject to the requirements of this rule and applies non-complying coatings.

The annual report shall be due March 1 and it shall contain the following information for the previous calendar year:

1. monthly totals (gallons) of compliant and noncompliant material used based on the records required by Section H.4.
2. annual totals (gallons) based on each of the coating's, solvent's, and stripper's monthly data.
3. if claiming the Rule 337.B.1 exemption, annual totals (gallons) of non-complying coatings for each separate formulation and all formulations, per Section H.7.b, and
4. if permitted, name and address of the company or agency, and the Permit to Operate number that the surface coating equipment is subject to.

**M. Requirements - Solvent Cleaning Machine**

Any person who owns, operates, or uses any solvent cleaning machine shall comply with the applicable provisions of Rule 321, Solvent Cleaning Machines and Solvent Cleaning.

APPROVED AS TO FORM:

DENNIS A. MARSHALL  
SANTA BARBARA COUNTY COUNSEL

By \_\_\_\_\_  
Deputy  
Attorneys for the Santa Barbara County  
Air Pollution Control District

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**RULE 349. POLYESTER RESIN OPERATIONS. (Adopted 4/27/1993, revised [date of amended rule adoption])**

**A. Applicability**

This rule shall apply to any person owning or operating any all-commercial and/or industrial polyester resin operations.

**B. Exemptions**

1. Section D.1, shall not apply to the addition or use of styrene, provided the volume of styrene used is less than 50 gallons per calendar year per stationary source. Any person claiming this exemption shall maintain ~~monthly styrene usage~~ records of the total volume (gallons) of styrene used per calendar year consistent with Sections F.6 and make them available to the District for review upon request. At a minimum, when using compliant materials, the records shall be kept on a monthly basis; and when using noncompliant materials, the records shall be kept on a daily basis.
2. This rule shall not apply to any cleaning performed with a solvent (including emulsions) that contains two percent by weight or less of each of the following:
  - a. Reactive organic compounds, and
  - b. Toxic air contaminants (as determined by generic solvent data, solvent manufacturer's composition data or by a gas chromatography test and a mass spectrometry test).
  - c. Any person claiming this exemption shall maintain the records specified in Sections F.1.a and F.1.f in a manner consistent with Section F.7 and make them available for review.
3. This rule shall not apply to polyester resin operations performed with polyester resin materials that contain no reactive organic compounds.
4. Section H shall not apply to any of the following:
  - a. Cleaning of semiconductor and microelectromechanical devices undergoing manufacturing processes involving thin film deposition, vacuum deposition, dry etching, or metal lift-off operations; including any maintenance activities associated with such operations;
  - b. Cleaning of electronic components;
  - c. Cleaning of encasements, including decoy shells or box casings, for electronic components that have a total surface area that is less than 2 square feet;
  - d. Cleaning of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);
  - e. Cleaning of transparencies, polycarbonate, or glass substrates;
  - f. Cleaning of solar cells, coated optics, laser hardware, scientific instruments, high-precision optics, telescopes, avionic equipment, microscopes, and military fluid systems;
  - g. Cleaning or stripping of coating overspray from personal protective equipment;
  - h. Cleaning of space vehicles.

5. Section H shall not apply to polyester resin operations production or rework of the following products, provided the solvents used contain 200 grams of reactive organic compound per liter of material or less or have a reactive organic compound composite partial pressure of 45 millimeter of mercury at 20 degrees Celsius or less:
  - a. Satellites, satellite components, aerospace vehicles, aerospace vehicle components, aerospace vehicle payloads, or aerospace vehicle payload components.
6. Section H shall not apply to polyester resin operations production or rework of products used in any laboratory tests or analyses, including quality assurance or quality control applications, bench scale projects, or short-term (less than 2 years) research and development projects. To qualify for this exemption, the following records shall be maintained:
  - a. A list of all solvents used, which at a minimum includes the manufacturer's identification and the reactive organic compound content of each solvent.
  - b. For each short-term research and development project, the project description, date it commenced, and date it concluded.
  - c. Such records shall be retained in accordance with the provisions of Section F.7.
7. Section H shall not apply to cleaning or stripping of polyester resin material from personal protective equipment.

**C. Definitions**

See Rule 102, Definitions, for definitions not limited to this rule. For the purposes of this ~~R~~rule, the following definitions shall apply:

“Aerospace Vehicle or Component” means any fabricated part, processed part, assembly of parts, or completed unit of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles includes satellites.

“Associated Solvent” means any solvent used in a solvent cleaning machine or for solvent cleaning performed in association with a polyester resin operation.

“Atomized Resin Application” means any resin application technology in which the resin leaves the application equipment and breaks into droplets or an aerosol as it travels from the application equipment to the surface of the part. Atomized resin application includes, but is not limited to, resin spray guns and resin chopper spray guns.

“Bench Scale Project” means a project (other than at a research and development facility) that is operated on a small scale, such as one capable of being located on a laboratory bench top.

~~1. —“Catalyst” is a~~ means any substance added to the resin to initiate polymerization.

~~2. —“Cleaning Materials”~~ include but are not limited to, materials used for cleaning hands, tools, molds, application equipment, and work area.

“Clear Gel Coat” means any gel coat that is clear or translucent so that underlying colors are visible. Clear gel coat is used to manufacture parts for sale. Clear gel coat do not include tooling gel coat used to build or repair molds.

**“Compliant Material”** means any polyester resin material that complies with the 1) applicable monomer content limits in Section D.1.a, D.1.b, or D.1.c, or 2) the D.1.d emission limit of grams per square meter of exposed surface area during resin polymerization; or any solvent that complies with the reactive organic compound content limit in Section H.

3. ~~\_\_\_\_\_~~ **“Closed Mold System”** ~~is a~~ means any method of forming objects from polyester resins by placing the polyester resin material in a confining mold cavity and applying pressure and/or heat.

**“Control”** means the reduction, by destruction or removal, of the amount of affected pollutants in a gas stream prior to discharge to the atmosphere.

4. ~~\_\_\_\_\_~~ **“Control System”** ~~includes a control device and a collection system~~ means any combination of pollutant capture system(s) and control device(s) used to reduce discharge to the atmosphere of reactive organic compound or toxic air contaminant emissions generated by a regulated operation.

**“Corrosion-Resistant Resin”** means any polyester resin material used to make products for corrosion resistant applications such as, but not limited to, tooling, fuel or chemical tanks, boat hulls, pools, and outdoor spas.

5. ~~\_\_\_\_\_~~ **“Cross-Linking”** ~~is the~~ means any chemical process of chemically bonding two or more polymer chains together.

6. ~~\_\_\_\_\_~~ **“Cure”** means to polymerize, i.e., to transform from a liquid to a solid or semi-solid state to achieve desired product physical properties, including hardness.

7. ~~\_\_\_\_\_~~ **“Fiberglass”** ~~is~~ means a fiber made from glass and similar in appearance to wool or cotton fiber.

**“Filler”** means any finely divided inert (non-ROC) material that is added to the resin to enhance its mechanical properties and extend its volume. Fillers include, but are not limited to, silica, carbon black, talc, mica and calcium carbonate.

**“Fire Retardant Resin”** means any polyester resin material used to make products that are resistant to flame or fire.

**“Fluid Impingement Technology”** means any spray gun that produces an expanding nonmisting curtain of liquid by the impingement of low-pressure uninterrupted liquid streams.

8. ~~\_\_\_\_\_~~ **“Gel Coat”** ~~is~~ means a polyester resin topcoat that provides cosmetic enhancement and improves resistance to degradation from exposure to the environment.

9. ~~\_\_\_\_\_~~ **Grams of ROC per liter of material** is the weight of ROC per volume of material and can be calculated by the following equation:

$$\text{Grams of ROC per liter of material} = \frac{(W_s - W_w - W_{es})}{V_m}$$

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

**“High-Strength Resin”** means any polyester resin material with a casting tensile strength of 10,000 pounds per square inch or more, used to manufacture high performance products.

10. ~~High Volume Low Pressure~~ means spray equipment used to apply coatings by means of a high volume of air delivered at pressures between 0.1 and 10 psi air pressure.

11. ~~“Inhibitor” is a means any~~ substance used to slow down or prevent a chemical reaction.

**“Lamination Resins”** means any orthophthalate, isophthalate and dicyclopentadiene resins used in composite system consisting of layers of reinforcement fibers and resins.

12. ~~Low ROC Emissions Resin Systems~~ are polyester resin materials which contain vapor suppressants to reduce monomer evaporation loss.

**“Maintenance Cleaning”** means a solvent cleaning operation or activity carried out to keep clean general work areas where manufacturing or repair activity is performed, to clean tools, machinery, molds, forms, jigs, and equipment. This definition does not include the cleaning of adhesive, coating, or ink application equipment.

**“Marble or Cultured Resins”** means any orthophthalate and modified acrylic isophthalate resins, which are designed for the fabrication of cast products, such as vanities.

**“Marble Resins”** means any orthophthalate and modified acrylic isophthalate resins used for the fabrication of cast products.

**“Mold”** means any cavity or surface into or on which gel coat, resin, and fibers are placed and from which finished fiberglass parts take their form.

13. ~~“Monomer” is an means any~~ organic compound that combines with itself, or other similar compounds to become a cured thermosetting resin (e.g., styrene).

**“Non-Atomized Resin Application”** means any application technology in which the resin is not broken into droplets or an aerosol as it travels from the application equipment to the surface of the part. Non-atomized resin application technology includes, but are not limited to, non-atomizing spray guns, flowcoaters, chopper flowcoaters, pressure fed resin rollers, resin impregnators, or fluid impingement technology.

**“Noncompliant Material”** means any polyester resin material that does not comply with the 1) applicable monomer content limits in Section D.1.a, D.1.b, or D.1.c, or 2) the D.1.d emission limit of grams per square meter of exposed surface area during resin polymerization; or any solvent that does not comply with the reactive organic compound content limit in Section H.

**“Open Molding Resin and Gel Coat Process”** means any process in which the reinforcing fibers and resin are placed in the mold and are open to the surrounding air while the reinforcing fibers are saturated with resin. For the purpose of this rule, open molding includes operations in which a vacuum bag or similar cover is used to compress the uncured laminate to remove bubbles or excess resin, or to achieve a bond between core material and a laminate.

**“Pigmented Gel Coat”** means any opaque gel coat used to manufacture parts for sale. Pigmented gel coat does not include tooling gel coat used to build or repair molds.

14. ~~“Polyester”~~ is a complex polymeric ester containing difunctional acids and alcohols dissolved in a monomer.

15. ~~“Polyester Resin Materials”~~ 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 ~~ROC~~reactive organic compound containing materials in polyester resin operations.

16. ~~“Polyester Resin Operations” are means those~~ methods used for the production or rework of products by mixing, pouring, hand lay-up, impregnating, injecting, forming, winding, spraying, and/or curing unsaturated polyester resin materials with fiberglass, fillers, or any other reinforcement materials and associated ~~cleanup~~solvent cleaning.

17. ~~“Polymer” is a means any~~ chemical compound comprised of a large number of chemical units and which is formed by the chemical linking of monomers.

“Primer Gel Coat” means any gel coat used to coat the surface of composite parts prior to top-coat painting in the automotive, aerospace, marine and home building industries.

18. ~~“Repair” is that part of the fabrication process that requires the addition of polyester resin material to portions of a previously fabricated product in order to mend minor structural damage means the process of returning a damaged object or an object not operating properly to good condition.~~

19. ~~“Resin” is means~~ any of a class of organic polymers of natural or synthetic origin used in reinforced products to surround and hold fibers, and is solid or semi-solid in the cured state.

“Solid Surface Resins” means any resin used without gel coats to fabricate homogenous solid surface products.

“Solvent” means any liquid containing any reactive organic compound or any toxic air contaminant, which is used as a diluent, thinner, dissolver, viscosity reducer, cleaning agent, drying agent, preservative, or other similar uses.

“Solvent Cleaning” means any activity, operation, or process (including, but not limited to, surface preparation, cleanup, or wipe cleaning) performed outside of a solvent cleaning machine, that uses solvent to remove uncured adhesives, uncured coatings, uncured inks, uncured polyester resin material, uncured sealant, or other contaminants, including, but not limited to, dirt, soil, oil, lubricants, coolants, moisture, fingerprints, and grease, from parts, products, tools, machinery, application equipment, and general work areas. Cleaning spray equipment used for the application of coating, adhesive, ink, polyester resin material, or sealant is also considered to be solvent cleaning irrespective of the spray material being cured.

“Solvent Cleaning Machine” means any device or piece of equipment that uses solvent liquid or vapor to remove soils, moisture, or other contaminants from the surfaces of materials. Types of solvent cleaning machines include, but are not limited to, batch cold, batch vapor, in-line cold, in-line vapor, remote reservoir, and gas-path solvent cleaners. Buckets, pails, and beakers with capacities of 3.785 liters (1.00 gallon) or less are not considered solvent cleaning machines. However, the use of such a container or similar containers (e.g., hand-held spray bottles) with a liquid solvent for cleaning is considered to be solvent cleaning. Any device or piece of equipment used exclusively for stripping shall not be considered to be a solvent cleaning machine.

“Specialty Gel Coat” means any gel coat which is used in conjunction with fire retardant, corrosion resistant, or high-strength materials.

20. ~~“Specialty Resin” is means~~ any halogenated, furan, bisphenol A, vinyl ester, or isophthalic resin used to make products for exposure to one or more of the following extreme environmental conditions: acute or chronic exposure to corrosive, caustic, acidic, agents, or flame.

“Tooling Gel Coat” means any gel coat used to build or repair molds (also known as tools) or prototypes (also known as plugs) from which the molds will be made.

**“Tooling Resin”** means any resins used to build or repair molds (also known as tools) or prototypes (also known as plugs) from which the molds will be made.

21. **Touch Up** is that portion of the fabrication process that is necessary to cover minor imperfections.

**“Tub/Shower Resin”** means any dicyclopentadiene resin, along with orthophthalate and isophthalate resins, used to fabricate bathware products.

22. **“Vapor Suppressant”** is a means any substance added to resin to minimize the outward diffusion of monomer vapor into the atmosphere.

23. **“Waste Materials”** include, but are not limited to any paper or cloth used for cleaning operations, waste resins, and any spent cleaning materials.

#### D. Requirements

##### 1. Process and Control

Any No person shall ~~operating~~ operate a polyester resin operation ~~unless the operation shall comply~~ complies with one or more of the following, as applicable.

- a. Before [24 months after the date of amended rule adoption], Use ~~use~~ polyester resin material with monomer content of no more than 35 percent by weight as applied and as determined by the manufacturer's specification. This requirement shall not apply to gel coats, provided the monomer content does not exceed 45 percent by weight for pigmented gel coats and does not exceed 50 percent by weight for clear gel coats. On and after [24 months after the date of amended rule adoption], use materials that comply with the limits in Table 349-1; or,
- b. Before [24 months after the date of amended rule adoption], Use ~~use~~ specialty resin with a monomer content of no more than 50 percent by weight as applied and as determined by the manufacturer's specification. On and after [24 months after the date of amended rule adoption], use materials that comply with the limits in Table 349-1; or,
- c. On and after [24 months after the date of amended rule adoption], use polyester resin material that comply with the limits shown in Table 349-1 below when using the open molding resin and gel coat process; or

**Table 349-1: Monomer Content Limits for Polyester Resin Materials**

<u>Polyester Resin Material</u>	<u>As-Applied Monomer Content Limits (Percentage, by Weight)</u>
<u>Clear Gel Coat</u>	
<u>For Marble Resins</u>	<u>40%</u>
<u>All Other Resins</u>	<u>44%</u>
<u>Pigmented Gel Coat</u>	
<u>White and Off White</u>	<u>30%</u>
<u>Non-White</u>	<u>37%</u>
<u>Primer</u>	<u>28%</u>
<u>Specialty Gel Coat</u>	<u>28%</u>
<u>Tooling Gel Coat</u>	<u>40%</u>



<u>Polyester Resin Material</u>	<u>As-Applied Monomer Content Limits (Percentage, by Weight)</u>
<u>General Purpose Resin</u>	
<u>Lamination Resins</u>	<u>31% or 35%, as supplied, with no fillers</u>
<u>Marble or Cultured Resins</u>	<u>10% or 32%, as supplied, with no fillers</u>
<u>Solid Surface Resins</u>	<u>17%</u>
<u>Tub/Shower Resins</u>	<u>24% or 35%, as supplied, with no fillers</u>
<u>Specialty Resin</u>	
<u>Corrosion Resistant Resin</u>	<u>48%</u>
<u>Fire Retardant Resin</u>	<u>38%</u>
<u>High Strength Resin</u>	<u>40%</u>
<u>Tooling Resin</u>	
<u>Atomized (spray)</u>	<u>30%</u>
<u>Non-atomized</u>	<u>39%</u>
<u>All Other Resin</u>	<u>35%</u>

- d. Before [24 months after the date of amended rule adoption], Useuse a resin containing a vapor suppressant, such that the weight loss from ROC-reactive organic compound emissions does not exceed 60 grams per square meter of exposed surface area during resin polymerization; On and after [24 months after the date of amended rule adoption], use a resin containing a vapor suppressant, such that the weight loss from reactive organic compound emissions does not exceed 50 grams per square meter of exposed surface area during resin polymerization. The “grams per square meter of exposed surface area during resin polymerization” shall be as-determined by the test method specified in Section E.42; or,
- de. Use a closed mold system; or,
- ef. Install and operate an add-on emission-control system, which is designed and operated in a manner that reduce uncontrolled emissions by at least 85 percent, provided all of the applicable requirements below are met. Any person installing such control system shall obtain an Authority to Construct from the District prior to installation.
- i. Before [24 months after the date of amended rule adoption], the overall efficiency (the capture efficiency multiplied by the control device efficiency) of the total system shall be at least 85 percent, by weight. On and after [24 months after the date of amended rule adoption], the overall efficiency shall be at least 90 percent, by weight. Alternatively, the control device reactive organic compound exhaust concentration shall not exceed 10 parts per million by volume as propane or other limit approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
- ii. Combustion temperature shall be continuously monitored when operating a thermal incinerator.
- iii. Inlet and exhaust gas temperatures shall be continuously monitored when operating a catalytic incinerator.
- iv. Control device efficiency shall be continuously monitored when operating a carbon adsorber or a control device other than a thermal or catalytic incinerator.

- v. Compliance through the use of an emission control system shall not result in affected pollutant emissions in excess of the affected pollutant emissions that would result from compliance with Sections D.1.a - D.1.d or H.

2. Spray Application Methods

~~Any No person operating shall apply a polyester resin operation shall, when applying polyester resin materials by in a spraying operation, unless the application is performed with equipment operating according to the manufacturers operating guidelines. use only~~ In addition, the application method employed shall be one of the following:

- a. ~~a~~ Airless, or
- b. ~~a~~ Air-assisted airless, or
- c. ~~h~~ High volume-low pressure spraying equipment, or
- d. ~~e~~ Electrostatic spray equipment, or
- e. Any other spray application method as approved by the Control Officer, the Air Resources Board, and the Environmental Protection Agency. and operated in accordance with the manufacturer's recommendations.

3. ~~Storage and Disposal~~ General Operating

~~A person operating a polyester resin operation shall use closed containers to store all polyester resin materials, cleaning materials, and any unused ROC containing materials except when accessed for use. Any person who owns or operates any polyester resin operation equipment or uses any associated solvent subject to this rule shall meet the following requirements:~~

- a. All polyester resin materials and cleaning materials, used or unused, shall be stored and disposed of in nonabsorbent and nonleaking containers equipped with tight-fitting covers. All covers shall be in place unless adding material to or removing material from the containers, the containers are empty, or doing maintenance/inspection of the containers.
- b. All application equipment, ventilation system, and emission control equipment shall be installed, operated, and maintained consistent with the manufacturer's specifications.
- c. Waste solvent, waste solvent residues, and any other waste material that contains reactive organic compounds shall be disposed of by one of the following methods:
- i. A commercial waste solvent reclamation service licensed by the State of California.
- ii. At a facility that is federally or state licensed to treat, store or dispose of such waste.
- iii. Recycling in conformance with Section 25143.2 of the California Health and Safety Code.
- d. All covers, valves, drain plugs, and other closure devices designed to reduce polyester resin material and cleaning material evaporation shall not be removed or opened except to process work or to perform monitoring, inspections, maintenance, or repairs that require the removal of the covers or other closure devices.

- e. Any spills of polyester resin materials or cleaning materials shall be wiped up immediately and the used absorbent material (e.g., cloth, paper, sand, sawdust, etc.) shall be stored in closed containers that are handled in accordance with Section D.3.a.
- f. The handling and transfer of polyester resin materials and cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent coatings and cleaning solvents shall be conducted in such a manner to minimize spills.
- g. Containers used to store polyester resin material, solvent, or any waste material that contains reactive organic compounds subject to this rule shall be marked or clearly labeled indicating the name of the material they contain.

**E. Compliance Provisions and Test Methods**

1. Compliance with Section D.1.a or D.1.b Polyester resin material monomer contents shall be determined measured using ASTM method D2369-8495, "Standard Test Method for Volatile Content of Coatings," ASTM International. Material tested shall be non-catalyzed.
2. Compliance with Section D.1.e The weight loss from reactive organic compound emissions shall be determined measured by laboratory static tests, "Static Method for Determination of Volatile Emissions from Polyester and Vinyl Ester Resins," as described in Attachment A.
3. Capture efficiency determinations The capture efficiency for reactive organic compound emissions required in Section D.1.d shall be based on criteria set forth by EPA in 40 CFR 52.741 determined by verifying the use of a Permanent Total Enclosure and 100 percent capture efficiency as defined by Environmental Protection Agency Method 204, "Criteria for and Verification of a Permanent or Temporary Total Enclosure." Alternatively, if an Environmental Protection Agency Method 204 defined Permanent Total Enclosure is not employed, capture efficiency shall be determined using a minimum of three sampling runs subject to data quality criteria presented in the Environmental Protection Agency technical guidance document "Guidelines for Determining Capture Efficiency, January 9, 1995." Individual capture efficiency test runs subject to the Environmental Protection Agency technical guidelines shall be determined by:
  - a. The Temporary Total Enclosure approach of Environmental Protection Agency Methods 204 through 204F; or
  - b. The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency," May 1995.
4. Control efficiency determinations The control device efficiency for reactive organic compound emissions required in Section D.1.d shall be made using EPA Method 25 or 25A. Gas flow rate measurements in pipes or small ducts shall be made using EPA Method 2A, determined by Environmental Protection Agency Methods 25, 25A, the South Coast Air Quality Management District Method 25.1, "Determination of Total Gaseous Non-Methane Organic Emissions as Carbon," February 1991, or the South Coast Air Quality Management District Method 25.3, "Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources," March 2000, as applicable. Environmental Protection Agency Test Method 18 or Air Resources Board Method 422, "Exempt Halogenated VOCs in Gases," September 12, 1990, shall be used to determine emissions of exempt compounds.
5. Solvent reactive organic compound content shall be measured by the Environmental Protection Agency Reference Method 24, its constituent methods, or an equivalent method approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer. The determination of exempt compounds shall be performed in accordance with ASTM D 4457-1991.

“Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph,” ASTM International. Alternatively, determination of exempt compounds may be performed in accordance with the South Coast Air Quality Management District Method 303-91, “Determination of Exempt Compounds,” August 1996. The reactive organic compound content of materials containing 50 grams of reactive organic compound per liter or less shall be determined by the South Coast Air Quality Management District Method 313-91, “Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry,” June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.

6. The capture efficiency for toxic air contaminant emissions that are not reactive organic compounds shall be determined by using the methods described in Section E.3 modified in a manner approved by the Control Officer to quantify the mass of liquid or gaseous reactive organic compounds and/or toxic air contaminants.
7. The control device efficiency for toxic air contaminant emissions that are not reactive organic compounds shall be determined using:
  - a. an Environmental Protection Agency approved test method or methods, or
  - b. in the case where there is no Environmental Protection Agency approved test method, a Control Officer approved detection method applicable for each target toxics specie.
  - c. the Control Officer may require more than one test method on any emission control device where necessary to demonstrate that the overall efficiency is at least 85 percent by weight in reducing emissions of reactive organic compounds and/or toxic air contaminants. Any technique to convert “parts per million by volume” test method results to either 1) “parts per million by weight,” or 2) “mass emission rates” (e.g., pounds per hour) shall first be approved by the Control Officer and, if such approval is not provided, then the technique shall not be used to show compliance with this rule.
8. Emissions of reactive organic compounds from the exhaust of an emission control system shall be measured by the Environmental Protection Agency Method 25, in combination with Environmental Protection Agency Method 18 or the California Air Resources Board Method 422, “Exempt Halogenated VOCs in Gases,” September 12, 1990 (to determine emissions of exempt compounds).
9. When more than one test method or set of test methods are specified for any testing, a test result showing an exceedance of any limit of this rule shall constitute a rule violation.
10. The Environmental Protection Agency test methods in effect on [date of amended rule adoption] shall be the test methods used to meet the requirements of this rule.

#### **F. Recordkeeping**

Any person subject to this rule shall comply with the following requirements: Any owner or operator of any stationary source comprised of more than one facility may comply with the following requirements on a facility basis.

1. A person shall maintain a current list-file of resins and cleaning all reactive organic compound-containing materials in use at the stationary source subject to this rule. which The file shall provides all of the data necessary to evaluate compliance and shall include, including the following information, as applicable:

- a. the type of resin, catalyst, and cleaning materials used (e.g., brand name, stock identification number);
  - b. the weight percent of ROC in each of the polyester resin materials, and the grams of ROC per liter for the cleaning materials; if applying polyester resin materials in spraying operations, indicate the spray application method used (e.g., airless, air-assisted airless, etc.);
  - c. for approved vapor suppressed resins, the weight loss (grams per square meter) during resin polymerization, the monomer percentage, and the gel time for each resin;
  - d. if mixing solvents, specific solvent mixing data (e.g., component volumes or weights) of each component for each batch sufficient to determine the mixture's reactive organic compound content;
  - e. the actual as applied reactive organic compound content of the solvent used and, when not using a closed mold system, the corresponding monomer content limits from Sections D.1.a, b, or c, and the actual as applied monomer contents; or if complying using a vapor suppressant, the actual polyester or vinyl ester resin weight loss rate of the materials used; and
  - f. current polyester resin material and solvent manufacturer specification sheets, Material Safety Data Sheets, product data sheets, or air quality data sheets, which list the reactive organic compound content of each material in use at the stationary source subject to this rule. Compliance with this provision may be done by ensuring the manufacturer's specifications are listed on the product container.
2. Maintain records for each reactive organic compound-containing material purchased for use at the stationary source. The records shall include, but not be limited to, the following:
    - a. material name and manufacturer identification (e.g., brand name, stock identification number); and
    - b. material type (e.g., polyester resin material type as specified in Table 349-1, cleanup solvent, etc.).
  3. Maintain records of the disposal method each time waste solvent, ~~or~~ waste solvent residue, or other waste material that contain reactive organic compounds is removed from the stationary source for disposal.
  4. For each material listed in response to Section F.1.a, maintain, at a minimum, on a monthly basis for compliant material and on a daily basis for noncompliant material, a record of the following:
    - a. volume used (gallons per day, gallons per month);
    - b. polyester resin material as-applied weight percent of monomer and the cleaning material reactive organic compound content (grams per liter or pounds per gallon);
    - c. polyester resin material reactive organic compound emission factors (pounds of reactive organic compounds per pounds of monomer used or pounds of reactive organic compounds per gallon); and
    - d. resulting reactive organic compound emissions (pounds per day, pounds per month).

- ~~25. Any person using add-on~~ For any stationary source that uses emission control equipment to meet the requirements of this rule, ~~shall maintain daily~~ records of key operating parameters values and maintenance procedures that ~~verify demonstrate~~ that the control equipment was operating properly for each day of operation continuous operation and compliance of the emission control system during periods of emission producing activities shall be maintained. These parameters shall include, but not be limited to:
- a. Hours of operation;
  - b. All maintenance work that requires the emission control system to be shut down; and
  - c. All information needed to demonstrate continuous compliance with Section D.1.f, such as temperatures, pressures, and/or flow rates.
6. Any person claiming an exemption under Section B.1 shall maintain, at a minimum, monthly records for compliant material and daily records for noncompliant material of styrene volumes used in gallons per day and/or gallons per month to support the claim of exemption.
- ~~37. Such records shall be retained for the previous 24 month period and be available to the District upon request.~~ Any records required to be maintained pursuant to this rule shall be kept on site for at least 2 years unless a longer retention period is otherwise required by state or federal regulation(s). Such records shall be kept on site and be readily available for inspection and review by the District.

#### **G. Compliance Schedule**

~~A person who is subject to the requirements of this determination shall be in compliance by April 27, 1994.~~

Any person who owns or operates any polyester resin operation equipment subject to this rule shall meet the following compliance schedule:

- 1. By [30 days from the date of amended rule adoption], comply with Section D.3, General Operating.
- 2. By [six months from the date of amended rule adoption], comply with the recordkeeping provisions in the following Sections:
  - a. F.1.d - mixing data,
  - b. F.1.e - solvent reactive organic compound content data, polyester resin material monomer contents (when not using a closed mold system), and/or actual weight loss rate data (when using a vapor suppressant),
  - c. F.1.f - manufacturer specification sheets, Material Safety Data Sheets, air quality data sheets, or manufacturer specification listings on product container,
  - d. F.2 - purchase records,
  - e. F.3 - waste disposal records, and
  - f. F.4 - polyester resin material reactive organic compound emission factor records and daily records for noncompliant materials.
- 3. By [12 months from the date of amended rule adoption], comply with the Section H and Section J requirements.

4. By [24 months from the date of amended rule adoption], comply with any applicable Section D provisions that have a phased-in effective date.
5. By [date of amended rule adoption], comply with all other provisions of this rule.

#### **H. Requirements – Solvent Cleaning**

Section H requirements apply to any person performing solvent cleaning associated with polyester resin operations, including, but not limited to, use of wipe cleaning cloths, hand-held spray bottles, squirt bottles, aerosol products, and the cleaning of application equipment. The following requirements become effective [one year from the date of amended rule adoption] and are in addition to the general operating requirements specified in Section D.3.

1. **Solvent Requirements.** Except when using an emission control system that meets the requirements of Section D.1.e, no person shall use any solvent to perform solvent cleaning which exceeds the applicable grams of reactive organic compound per liter of material limit specified in Table 349-2.

**Table 349-2: Reactive Organic Compound Content Limits for Solvent Cleaning**

<u>SOLVENT CLEANING ACTIVITY</u>	<u>ROC Limit, grams of ROC per liter of material (pounds of ROC per gallon)</u>
<u>(a) Product Cleaning During Manufacturing Process or Surface Preparation for Coating Application</u>	<u>25 (0.21)</u>
<u>(b) Repair and Maintenance Cleaning</u>	<u>25 (0.21)</u>
<u>(c) Cleaning of Polyester Resin Application Equipment</u>	<u>25 (0.21)</u>

#### **I. Reporting Requirements**

Submittal of an annual report to the District is required if a person holds a permit for equipment subject to the requirements of this rule. The annual report shall be due March 1 and it shall contain the following information for the previous calendar year:

1. monthly totals (gallons) of compliant and noncompliant material used based on the records required by Section F.4,
2. annual totals (gallons) based on each of the polyester resin materials' and cleaning materials' monthly data,
3. if claiming the Rule 349.B.1 exemption, monthly totals of styrene (gallons) used per Section F.6 and the yearly total amount (gallons) of styrene used, and
4. name and address of the company or agency and the Permit to Operate number that the polyester resin operation is subject to.

**J. Requirements - Solvent Cleaning Machine**

Any person who owns, operates, or uses any solvent cleaning machine shall comply with the applicable provisions of Rule 321, Solvent Cleaning Machines and Solvent Cleaning.



## ATTACHMENT A

### STATIC METHOD FOR DETERMINATION OF VOLATILE EMISSIONS FROM POLYESTER AND VINYL ESTER RESINS

#### 1. PURPOSE

- 1.1 This test is designed for the determination of volatile organic compound emissions of polyester and vinyl ester resins as received from the manufacturer, according to requirements of California's South Coast Air Quality Management District (~~SCAQMD) proposed Rule 1162 amendment published July 17, 1990~~[Method 309-91, Determination of Static Volatile Emissions, revised February 1993](#).
- 1.2 This test allows fabricators using polyester and vinyl ester resins to monitor volatile organic compound emissions (principally styrene monomer) from resins used in the fabrication process. The results are to be reported as volatile organic compound losses in grams per square meter ( $\text{gm/m}^2$ ).

#### 2. METHOD

The weight of a one gallon can lid filled with 100 ~~gm~~[grams](#) of resin is accurately measured over a period of time. The measurement is made on resin catalyzed with peroxide initiators to determine weight losses attributed to monomer and other volatile organic compound emissions.

#### 3. EQUIPMENT REQUIREMENTS

- 3.1 Controlled environment at 25.0 ~~C~~[degrees Celsius](#) and humidity of 50% ~~R-H~~[percent relative humidity](#). If controlled environment is not available, report condition under which measurements are made.
- 3.2 **Balance** with an accuracy of 0.01 ~~gm~~[gram](#).
- 3.3 **Draft free enclosure** for balance. This can be achieved by placing the balance in a four sided enclosure that extends a minimum of eight inches above the top of the balance.
- 3.4 **Gallon can lid** with deep form sufficient to contain 100 ~~gm~~[grams](#) of resin, having a normal diameter of 14.5 ~~cm~~[centimeters](#).
- 3.5 **Certified or calibrated thermometer** capable of measurements accurate to 1 degree ~~C~~[Celsius](#).
- 3.6 **Constant temperature** bath controlled at 25 ~~C~~[degrees Celsius](#) to adjust resin temperature to 25~~C~~[degrees Celsius](#).
- 3.7 **Timer** - capable of recording time to 0.1 minute.
- 3.8 **Paper clip** - bent to approximately 90~~o~~[degree](#) angle.
- 3.9 **Syringe or pipette** accurate to 0.1 ~~ml~~[milliliter](#) for peroxide catalyst addition.

#### 4. PROCEDURE

- 4.1 Weigh out 200 ~~gm~~ grams of prepromoted resin into a suitable dry and clean container. Wax cups should not be used for this test.
- 4.2 Cover container and place in constant temperature bath and adjust resin temperature to 25°C ~~degrees Celsius~~.
- 4.3 Place balance in draft free enclosure.
- 4.4 Clean gallon lid with solvent, wipe dry and air dry and measure diameter to the nearest 0.1 ~~em~~centimeter.
- 4.5 Place gallon can lid on an inverted paper or plastic cup mounted on the balance pan. Position bent paper clip in the center of the gallon can lid. Record TARE WEIGHT to 0.01-~~gm~~gram.
- 4.6 Take container with resin from water bath and add appropriate volumetric or weight measure of catalyst using syringe or pipette. Start timer. (~~continued~~)
- 4.7 Using stirring rod or thermometer, mix in catalyst for one minute.
- 4.8 Pour 100.0 +/- ~~plus or minus~~ 0.5 ~~gm~~ gram of catalyzed resin into can lid and record weight to +/- ~~plus or minus~~ 0.01 ~~gm~~gram. This is the INITIAL WEIGHT.
- 4.9 Using paper clip, determine when resin has hardened sufficiently to allow resin or lid to be lifted ~~or the gel to be torn~~.
- 4.10 Record this as gel time.
- 4.11 Allow resin to harden in can lid and reweigh every 15 minutes until concurrent weighing agrees to within 0.05-~~gm~~gram. Record this as FINAL WEIGHT to +/- ~~plus or minus~~ 0.01-~~gm~~gram.
- 4.12 Procedure should be repeated until duplicate samples agree to the nearest 5 ~~gm-per-m<sup>2</sup>~~ grams per meter<sup>2</sup>.

#### 5. CALCULATION

- 5.1 Volatile Organic Compound Emissions per Square Meter

$$\text{Area of Gallon Can Lid in m}^2 \equiv \frac{(d/2)^2 \times 3.14}{10,000 \text{ cm}^2 / \text{m}^2}$$

$$\text{Area of Sample in Square Meter} = (d/2)^2 \times 3.14$$

Where:  $d$  = diameter of the gallon can lid in centimeters (cm)  
 $3.14$  = value of Pi  
 $\text{cm}^2$  = square centimeters  
 $\text{m}^2$  = square meters

Volatile Organic Compound **Losses, Grams** per Square Meter  $\equiv$   
 $\frac{\text{INITIAL WEIGHT} - \text{FINAL WEIGHT}}{\text{Area of Sample Gallon Can Lid in Square Meters}}$

- 5.2 Percent Volatile Organic Compound Emission 
$$\frac{\text{INITIAL WEIGHT} - \text{FINAL WEIGHT}}{\text{INITIAL WEIGHT} - \text{TARE WEIGHT}} \times 100$$

## 6. REPORTING REQUIREMENTS

- 6.1 Ambient temperature and humidity.
- 6.2 Resin identification and batch number.
- 6.3 Initiator system and amounts used.
- 6.4 Volatile organic compound losses as grams per square meter.
- 6.5 Percent volatile organic compound emission.
- 6.6 Gel time under conditions of test.

APPROVED AS TO FORM:

DENNIS A. MARSHALL  
SANTA BARBARA COUNTY COUNSEL

By \_\_\_\_\_

Deputy  
Attorneys for the Santa Barbara County  
Air Pollution Control District

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**RULE 353      ADHESIVES AND SEALANTS. (Adopted 8/19/1999, revised [date of amended rule adoption])**

**A.      Applicability**

This rule is applicable to any person who supplies, sells, offers for sale, distributes, manufactures, solicits the application of, or uses any adhesives product, adhesive bonding primers, adhesive primers, sealants product, sealant primers, or any other primers or associated solvent for use within the District, unless otherwise specifically exempted by this rule.

**B.      Exemptions**

~~1.      The provisions of this rule shall not apply to the following:~~

~~a1.      This rule shall not apply to A~~adhesives and associated solvents ~~used in tire repair operations, provided a label on the adhesive used states "For Tire Repair Only."~~

~~b2.      This rule shall not apply to A~~adhesives and associated solvents ~~used in the assembly and manufacturing of undersea-based weapon systems.~~

~~e3.      Provisions of Sections D, E, G.1, and H, shall not apply to any A~~adhesives products, adhesive bonding primers, adhesive primers, sealants, sealant primers products, and any associated solvent or any other primers being tested or evaluated used in any laboratory tests or analyses, including quality assurance or quality control applications, bench scale projects, or short-term (less than 2 years) research and development projects, quality assurance, or analytical laboratory. To qualify for this exemption, provided that the following records shall be~~are~~ maintained and made available to District personnel for a period of at least five (5) years:

~~1)a.      A list of all such materials used, which at a minimum includes the manufacturer's identification, the product category of the material or type of application, and the reactive organic compound content of each material.~~

~~2)b.      For each short-term research and development project, the project description, date it commenced, and date it concluded.~~

~~c.      Such records shall be retained in accordance with the provisions of Section O.~~46 of this rule.

~~d4.      This rule shall not apply to S~~solvent welding operations and associated cleaning solvents ~~used in the manufacturing of medical devices, such as, but not limited to, catheters, heart valves, blood cardioplegia machines, tracheotomy tubes, blood oxygenators, and cardiatory reservoirs.~~

~~e.      Plaque laminating operations where adhesives are used to bond a clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. Any person seeking to claim this exemption shall notify the Control Officer in writing that a complying adhesive is not available.~~

~~f5.      This rule shall not apply to A~~adhesives product and ,adhesive bonding primers, adhesive primers, sealants, sealant primers product, or any other primers coating operations and associated solvent use regulated by either of that are subject to any of the following District rules, provided the rule has been approved as part of the State Implementation Plan by the Environmental Protection Agency.

~~1)a.      Rule 337, Surface Coating of Aircraft or Aerospace Vehicles~~ Parts and Products Components.

2)b. Rule 354, Graphic Arts.

g6. ~~This rule shall not apply to A~~adhesives ~~products and~~, ~~adhesive bonding primers, adhesive primers, sealants, sealant primers products, or any other primers~~ that contain less than 20 grams of reactive organic compound per liter (0.17 pounds of reactive organic compound per gallon) of adhesive or sealant, less water and less exempt compounds, as applied.

h7. ~~This~~Except for Section J, the rule shall not apply to ~~C~~cianoacrylate adhesives.

i8. Except as otherwise specified in Section B.10.c, this rule shall not apply to ~~A~~adhesives ~~products and~~, ~~adhesive bonding primers, adhesive primers, sealants, sealant primers products, or any other primers~~, which are sold or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less.

29. ~~The provisions of this rule, e~~Except for Sections ~~J, K, (Prohibition of Sales)L, M, O.3, -and O.6,~~ this rule shall not apply ~~if the to any stationary source that has~~ total reactive organic compound emissions ~~less than 200 pounds per calendar year~~ from adhesive ~~products, adhesive bonding primers, adhesive primers, sealant products, associated solvents, and strippers~~sealant primers, or any other primers, ~~applied at the stationary source are less than 200 pounds per calendar year.~~ Associated solvents and strippers used for operations that are exempt per Sections B.1 - B.4, B.11, and B.13 shall not be included in calculating the total reactive organic compound emissions under this exemption. Any person claiming this exemption shall record and maintain ~~monthly~~ operational and emission records that ~~can substantiate this claim~~document compliance. At a minimum, when using compliant materials, the records shall be kept on a monthly basis; and when using noncompliant materials, the records shall be kept on a daily basis. Further, the records shall be made available to District personnel for a period of at least five (5) years.~~All Such records kept to substantiate the exemption claim shall be retained in accordance with the provisions of Section O.6.~~

310. The sales prohibition in Sections K.1 and K.2 of this rule shall not apply to:

- a. Any supplier or seller of any adhesive product (including aerosol adhesive), ~~adhesive bonding primer, adhesive primer, sealant, or sealant primer product, or any other primer~~ where the supplier or seller:
  - 1) Ships the product outside of Santa Barbara County for use outside of Santa Barbara County.
  - 2) Provides product to a user who has installed a District permitted reactive organic compound add-on control device.
- b. Any manufacturer of any adhesive product (including aerosol adhesive) ~~or, adhesive bonding primer, adhesive primer, sealant, sealant primer product, or any other primer~~, if the manufacturer has provided the maximum volatile organic compound content per Section L ~~of this rule~~ and if:
  - 1) The product was not sold directly to a user or a sales outlet located in Santa Barbara County, or
  - 2) The product was sold to an independent distributor that is not a subsidiary of, or under the direct control of, the manufacturer.
- c. The sale of any adhesive product (including aerosol adhesive) ~~or, adhesive bonding primer, adhesive primer, sealant, sealant primer product, or any other primer~~, except plastic cement welding adhesives, if:

- 1) The product is sold in any container(s) having a capacity of 16 fluid ounces or less (net volume) or one pound or less (net weight); and
- 2) The total net weight or volume of two or more containers packaged together must be equal to or less than one pound or 16 fluid ounces, respectively, to qualify for this exemption.

11. This rule shall not apply to any cleaning performed with a solvent (including emulsions) that contains two percent by weight or less of each of the following:

- a. Reactive organic compounds, and
- b. Toxic air contaminants (as determined by generic solvent data, solvent manufacturer's composition data or by a gas chromatography test and a mass spectrometry test).
- c. Any person claiming this exemption shall maintain the records specified in Sections O.1.a and O.1.f in a manner consistent with Section O.6 and make them available for review.

12. This rule shall not apply to adhesive products (including aerosol adhesives) and sealant products subject to the Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, section 94507 et seq.

13. Provisions of Sections G.1, H, and R shall not apply to solvents and strippers used on any of the following:

- a. Cotton swabs when removing cottonseed oil before the cleaning of high-precision optics;
- b. Paper gaskets;
- c. Clutch assemblies where rubber is bonded to metal by means of an adhesive;
- d. Cleaning of semiconductor and microelectromechanical devices undergoing manufacturing processes involving thin film deposition, vacuum deposition, dry etching, or metal lift-off operations; including any maintenance activities associated with such operations;
- e. Electronic components;
- f. Cleaning of encasements, including decoy shells or box casings, for electronic components that have a total surface area that is less than 2 square feet;
- g. Parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);
- h. Transparencies, polycarbonate, or glass substrates;
- i. Solar cells, coated optics, laser hardware, scientific instruments, high-precision optics, telescopes, microscopes, avionic equipment, and military fluid systems;
- j. Personal protective equipment.

## C. Definitions

See Rule 102, Definitions, for definitions not limited to this rule. For purposes of this rule, the following definitions shall apply:

**“Acrylonitrile-Butadiene-Styrene (ABS) Welding Adhesive”** means any adhesive intended by the manufacturer to weld ABS pipe. ABS pipe is made by reacting monomers of acrylonitrile, butadiene, and styrene and is normally identified with an ABS marking.

**“Adhesive”** means any substance that is used to bond one surface to another surface by attachment or fused union.

**“Adhesive Primer”** means any product intended by the manufacturer to be applied to a substrate, prior to the application of an adhesive, to provide a bonding surface.

~~**“Adhesive Bonding Primer”** means an adhesive applied to a surface to improve the bond of subsequent adhesives and sometimes to inhibit corrosion.~~

**“Adhesive Primer for Plastic”** means a material applied to a plastic substrate before applying an adhesive in order to obtain better adhesion.

**“Adhesive Product”** means any adhesive, glue, cement, mastic, adhesive primer, adhesive primer for plastics, and any other adhesive primer. Adhesive products are a type of coating.

**“Adhesive Solid”** means the nonvolatile portion of an adhesive that remains after heating a sample of the material at 110° ~~degrees C~~-Celsius for one hour.

**“Aerosol Adhesive”** means an adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a nonrefillable can designed for hand-held application without the need for ancillary hoses or spray equipment. “Aerosol adhesives” include “special purpose spray adhesives,” “mist spray adhesives,” and “web spray adhesives” as defined in the Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, section 94507 et seq.

**“Airless Spray”** means a spray method in which a pump forces the adhesive through an atomizing nozzle at high pressure (1,000 to 6,000 pounds per square inch).

~~**“Any Other Primer”** means a coating or adhesive applied to a substrate to improve adhesion of subsequently applied adhesive, except adhesive primer and adhesive bonding primer.~~

**“Architectural Sealant/Primer”** means any sealant or sealant primer intended by the manufacturer to be applied to stationary structures, including mobile homes, and their appurtenances. Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

**“Associated Solvent”** means any solvent used in a solvent cleaning machine or for solvent cleaning performed in association with the application of any adhesive product or sealant product.

**“Automotive Glass Adhesive Primer”** means any adhesive primer intended by the manufacturer to be applied to automotive glass prior to installation with an adhesive/sealant. This primer improves adhesion to the pinch weld and blocks ultraviolet light.

**“Bench Scale Project”** means a project (other than at a research and development facility) that is operated on a small scale, such as one capable of being located on a laboratory bench top.

**“Ceramic Tile Installation Adhesive”** means any adhesive intended by the manufacturer for the installation of ceramic tiles.



**“Ceramic Tile”** means a ceramic surfacing unit made from clay or a mixture of clay and other materials.

**“Chlorinated Polyvinyl Chloride (CPVC) Welding Adhesive”** means any adhesive intended by the manufacturer for the welding of CPVC plastic pipe. CPVC plastic is a polymer of the monomer that contains 67 percent chlorine and is normally identified with a CPVC marking.

**“Coating”** means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, adhesive products, paints, varnishes, sealant products, and stains.

**“Compliant Material”** means any adhesive product, sealant product, stripper, or solvent that has a reactive organic compound content or composite partial pressure that complies with the applicable limit in Section D, E, F, G, H, or R.

**“Computer Diskette Jacket Manufacturing Adhesive”** means any adhesive intended by the manufacturer to glue the fold-over flaps to the body of a vinyl computer diskette jacket.

**“Contact Bond Adhesive” or “Contact Adhesive”** means any adhesive intended by the manufacturer to adhere to itself instantaneously upon contact. The adhesive is applied to both adherends and allowed to become dry, which develops a bond when the adherends are brought together without sustained pressure. for application to both surfaces to be bonded together, which is allowed to dry before the two surfaces are placed in contact with each other, forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other, and does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces. Contact adhesive does not include rubber cements that are primarily intended for use on paper substrates. Contact adhesive also does not include vulcanizing fluids that are designed and labeled for tire repair only.

**“Contact Bond Adhesive-Specialty Substrates” or “Specialty Contact Adhesive”** means any contact adhesive that is intended by the manufacturer to be used for the bonding of nonporous substrates to each other, the bonding of decorative laminate in post-forming application, or for the bonding of decorative laminate to metal, melamine-covered board, or curved surfaces, or when used to bond the bonding of any substrate to metal, rubber, rigid plastic, or wood veneer not exceeding 1/16 inch in thickness.

**“Control”** means the reduction, by destruction or removal, of the amount of affected pollutants in a gas stream prior to discharge to the atmosphere.

**“Control System”** means any combination of pollutant capture system(s) and control device(s) used to reduce discharge to the atmosphere of reactive organic compound or toxic air contaminant emissions generated by a regulated operation.

**“Cove Base Installation Adhesive”** means any adhesive intended by the manufacturer for the installation of cove base (or wall base), which means is generally made of vinyl or rubber, on a wall or vertical surface at floor level.

**“Cyanoacrylate Adhesive”** means an adhesive with a cyanoacrylate content of at least 95 percent by weight.

**“Dip Coat Application”** means any process in which a substrate is immersed in a solution (or dispersion) containing the coating material, and then withdrawn.

**“Drywall Installation”** means the installation of gypsum drywall to studs or solid surfaces using an adhesive formulated for that purpose.

**“Electrodeposition”** means the application of a coating using a water-based electrochemical bath process. The component being coated is immersed in a bath of the coating. An electric potential is applied between the component and an oppositely charged electrode hanging in the bath. The electric potential causes the ionized coating to be electrically attracted, migrated, and deposited on the component being coated.

**“Exempt Compound”** means any compound identified as an exception to the definition of “reactive organic compound” in Rule 102.

**“Fiberglass”** means a fiber made fine filaments of from glass and similar in appearance to wool or cotton fiber.

**“Flexible Vinyl”** means nonrigid polyvinyl chloride plastic with at least five percent, by weight, of plasticizer content. A plasticizer means a material, such as a high boiling point organic solvent, that ~~means~~ is incorporated into an adhesive to increase its flexibility, workability, or distensibility, and may be determined using ASTM Method E260-~~94~~96(2006), “Standard Practice for Packed Column Gas Chromatography,” ASTM International, or from product formulation data.

**“Flow Coat Application”** means any coating application system, with no air supplied to the nozzle, where paint flows over the part and the excess coating drains back into the collection system.

**“Foam”** means a rigid or spongy cellular mass with gas bubbles dispersed throughout.

**“Glue”** means a hard gelatin obtained from hides, tendons, cartilage, bones, etc., of animals. Through general use, the term “glue” is synonymous with the term “adhesive.”

**“Grams of Reactive Organic Compound (ROC) per Liter of Adhesive or Sealant, Less Water and Less Exempt Compounds”** means the weight of reactive organic compound per combined volume of reactive organic compound and adhesive or sealant solids, and can be calculated by the following equation:

$$\frac{\text{Grams of } \del{ROC} \text{ reactive organic compounds}}{\text{per liter of adhesive or sealant, less}} = \frac{W_s - W_w - W_e}{V_m - V_w - V_e}$$

Where:

$W_s$	=	Weight of volatile compounds in grams
$W_w$	=	Weight of water in grams
$W_e$	=	Weight of exempt compounds in grams
$V_m$	=	Volume of material in liters
$V_w$	=	Volume of water in liters
$V_e$	=	Volume of exempt compounds in liters

For adhesives or sealants that contain reactive diluents, the reactive organic compound content of the adhesive or sealant is determined after curing. The grams of reactive organic compound per liter of adhesive or sealant shall be calculated by the following equation:

$$\frac{\text{Grams of } \del{ROC} \text{ reactive organic compounds}}{\text{per liter of adhesive or sealant, less}} = \frac{W_{rs} - W_{rw} - W_{re}}{V_{rm} - V_{rw} - V_{re}}$$

Where:

$W_{rs}$	=	Weight of volatile compounds not consumed during curing in grams
$W_{rw}$	=	Weight of water not consumed during curing in grams
$W_{re}$	=	Weight of exempt compounds not consumed during curing in grams
$V_{rm}$	=	Volume of material not consumed during curing in liters
$V_{rw}$	=	Volume of water not consumed during curing in liters
$V_{re}$	=	Volume of exempt compounds not consumed during curing in liters

**“Grams of Reactive Organic Compound Per Liter of Material”** means the weight of reactive organic compound per volume of material and can be calculated by the following equation:

$$\text{Grams of ROC per liter of Material} = \frac{W_v - W_w - W_e}{V_m}$$

Where:  $W_v$  = weight of volatile compounds in grams  
 $W_w$  = weight of water in grams  
 $W_e$  = weight of exempt compounds in grams  
 $V_m$  = volume of material in liters

**“Hand Application Method”** means the application of a surface coating by manually held non-mechanically operated equipment. Such equipment includes paint brush, hand-roller, trowel, spatula, dauber, rag or sponge.

**“Indoor Floor Covering Installation Adhesive”** means any adhesive intended by the manufacturer for the installation of wood flooring, carpet, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll, or artificial grass. Ceramic tile installation and the installation of perimeter bonded sheet flooring with vinyl backing onto a non-porous substrate, such as flexible vinyl are excluded from this category.

**“Laminate”** means a product made by bonding together two or more layers of material.

**“Low-Solids Adhesive, Sealant, or Primer”** means any product that contains 120 grams or less of solids per liter of material.

**“Marine Deck Sealant/Sealant Primer”** means any sealant or sealant primer intended by the manufacturer to be applied to wooden marine decks.

**“Metal to Urethane/Rubber Molding or Casting Adhesive”** means any adhesive intended by the manufacturer to bond metal to high density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products such as rollers for computer printers or other paper handling equipment.

**“Multipurpose Construction Adhesive”** means any adhesive intended by the manufacturer for the installation or repair of various construction materials, including but not limited to drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile, and acoustical tile.

**“Noncompliant Material”** means any adhesive product, sealant product, stripper, or solvent that has a reactive organic compound content or composite partial pressure that does not comply with the applicable limit in Section D, E, F, G, H, or R.

**“Nonmembrane Roof Installation/Repair Adhesive”** means any adhesive intended by the manufacturer for the installation or repair of nonmembrane roofs and that ~~means is~~ not intended for the installation of prefabricated single-ply flexible roofing membrane. This category includes plastic or asphalt roof cement, asphalt roof coatings, and cold application cement.

**“Outdoor Floor Covering Installation Adhesive”** means any adhesive intended by the manufacturer for the installation of floor covering that ~~means is~~ not in an enclosure and means exposed to ambient weather conditions during normal use.

**“Panel Installation”** means the installation of plywood, pre-decorated hardboard (or tileboard), fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

**“Percent Reactive Organic Compound By Weight”** means the ratio of the weight of the reactive organic compound to the weight of the material, expressed as a percentage of reactive organic compound by weight. The percent reactive organic compound by weight can be calculated as follows:

$$\text{Percent reactive organic compound by weight} = \left[ \frac{W_v}{W} \right] \times 100$$

Where:  $W_v$  = weight of ROCs-reactive organic compounds in grams  
 $W$  = weight of material in grams

**“Perimeter Bonded Sheet Flooring Installation”** means the installation of sheet flooring with vinyl backing onto a nonporous substrate using an adhesive design to be applied only to a strip of up to four inches wide around the perimeter of the sheet flooring.

**“Plastic Cement Welding Adhesive Primer”** means any primer intended by the manufacturer to prepare plastic substrates prior to bonding or welding.

**“Plastic Foam”** means any foam constructed of plastics.

**“Plastics”** means various synthetic materials chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders, and/or reinforcers. They are used to produce pipe, solid sheet, film, or bulk products.

**“Polyurethane Foams”** means plastic foams, as defined in “Whittington’s Dictionary of Plastics,” page 329, and may be either rigid or flexible.

**“Polyvinyl Chloride (PVC) Plastic”** means a polymer of the chlorinated vinyl monomer that contains 57 percent chlorine and is normally identified with a PVC marking.

**“Polyvinyl Chloride (PVC) Welding Adhesive”** means any adhesive intended by the manufacturer for the welding of PVC plastic pipe.

**“Porous Material”** means a substance that has tiny openings, often microscopic, in which fluids may be absorbed or discharged. Such materials include but are not limited to wood, paper, corrugated paperboard, and plastic foam.

**“Propellant”** means a fluid under pressure that expels the contents of a container when a valve means opened.

**“Reactive Diluent”** means a liquid which is a reactive organic compound during application and one in which, through chemical and/or physical reactions, such as polymerization, 20 percent or more of the reactive organic compound becomes an integral part of a finished material.

**“Roadway Sealant”** means any sealant intended by the manufacturer to be applied to public streets, highways, and other surfaces, including but not limited to curbs, berms, driveways, and parking lots.

**“Rubber”** includes any natural or manmade rubber substrate, including but not limited to, styrene-butadiene rubber (SBR), polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene (CSM), and ethylene propylene diene terpolymer (EPDM).

**“Sealant”** means any material with adhesive properties that is formulated primarily to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces. Sealants include caulks.

**“Sealant Primer”** means any product intended by the manufacturer to be applied to a substrate, prior to the application of a sealant, to enhance the bonding surface.

**“Sealant Product”** means any sealant and sealant primer. Sealant products are a type of coating.

**“Sealant Solid”** means the nonvolatile portion of a sealant that remains after heating a sample of the material at 110 ~~degrees Celsius~~ [degrees Celsius](#) for one hour.

**“Sheet-Applied Rubber Installation”** means sheet rubber lining applied to the interior walls of stationary tanks and rail cars.

**“Single-Ply Roof Membrane”** means single sheets of rubber, normally EPDM (ethylene-propylene diene terpolymer), that are applied in a single layer to a building roof (normally a flat roof).

**“Single-Ply Roof Membrane Adhesive”** means any adhesive intended by the manufacturer for the installation or repair of single-ply roof membrane. Installation includes, as a minimum, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes, and ducts that protrude through the membrane. Repair includes gluing the edges of tears together, attaching a patch over a hole, and reapplying flashings to vents, pipes, or ducts installed through the membrane.

**“Single-Ply Roof Membrane Adhesive Primer”** means any primer intended by the manufacturer to clean and promote adhesion of the single-ply roof membrane seams or splices prior to bonding.

**“Single-Ply Roof Membrane Sealant”** means any sealant to be used for the installation or repair of single-ply roof membrane to the edge of the roof and applying flashings to vents, pipes, or ducts that protrude through the membrane. Repair includes, but is not limited to gluing the edges of tears together, attaching a patch to a hole, and reapplying flashings to vents, pipes, or ducts installed through the membrane.

**“Solvent”** means any liquid containing any reactive organic compound or any toxic air contaminant, which is used as a diluent, thinner, dissolver, viscosity reducer, cleaning agent, drying agent, preservative, or other similar uses.

**“Solvent Bonding”** has the same meaning as “solvent welding.”

**“Solvent Cleaning”** means any activity, operation, or process (including, but not limited to, surface preparation, cleanup, or wipe cleaning) performed outside of a solvent cleaning machine, that uses solvent to remove uncured adhesives, uncured coatings, uncured inks, uncured polyester resin material, uncured sealant, or other contaminants, including, but not limited to, dirt, soil, oil, lubricants, coolants, moisture, fingerprints, and grease, from parts, products, tools, machinery, application equipment, and general work areas. Cleaning spray equipment used for the application of coating, adhesive, ink, polyester resin material, or sealant is also considered to be solvent cleaning irrespective of the spray material being cured.

**“Solvent Cleaning Machine”** means any device or piece of equipment that uses solvent liquid or vapor to remove soils, moisture, or other contaminants from the surfaces of materials. Types of solvent cleaning machines include, but are not limited to, batch cold, batch vapor, in-line cold, in-line vapor, remote reservoir, and gas-path solvent cleaners. Buckets, pails, and beakers with capacities of 3.785 liters (1.00 gallon) or less are not considered solvent cleaning machines. However, the use of such a container or similar containers (e.g., hand-held spray bottles) with a liquid solvent for cleaning is considered to be solvent cleaning. Any device or piece of equipment used exclusively for stripping shall not be considered to be a solvent cleaning machine.

**“Solvent Welding”** means the softening of the surfaces of two substrates by wetting them with solvents and/or adhesives, and joining them together with a chemical and/or physical reaction(s) to form a fused union.

**“Stripper”** means any liquid that is applied to a surface to remove cured or dried coatings such as primers, adhesives (e.g., debonding or unglueing), topcoats, and temporary protective coatings.

**“Structural Glazing Adhesive”** means any adhesive intended by the manufacturer to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.

**“Subfloor Installation”** means the installation of subflooring material over floor joists, including the construction of any load bearing joists. Subflooring means covered by a finish surface material.

**“Surface Preparation Solvent”** means a solvent used in the cleaning of a substrate to remove dirt, oil, and other contaminants (e.g., uncured coatings). This surface cleaning ~~means-is~~ typically done prior to the application of primers, adhesives, or sealants.

**“Thin Metal Laminating Adhesive”** means any adhesive intended by the manufacturer to bond multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) ~~means-is~~ less than 0.25 mil (0.00025 inch, 0.00635 millimeter).

**“Tire Repair”** means the expanding of a hole, tear, fissure, or blemish in a tire casing by grinding or gouging, applying adhesive, and filling the hole or crevice with rubber.

**“Tire Retread Adhesive”** means any adhesive intended by the manufacturer to be applied to the back of precure tread rubber and to the casing and cushion rubber. It may also be used to seal buffed tire casings to prevent oxidation while the tire ~~means-is~~ being prepared for a new tread.

**“Traffic Marking Tape”** means preformed reflective film intended by the manufacturer to be applied to public streets, highways, and other surfaces, including but not limited to curbs, berms, driveways, and parking lots.

**“Traffic Marking Tape Adhesive Primer”** means any primer intended by the manufacturer to be applied to surfaces prior to installation of traffic marking tape.

**“Viscosity”** means the internal friction of a liquid that makes it resistant to flow.

**“Volatile Organic Compound (VOC)”** has the same meaning as “reactive organic compound” as defined in Rule 102, Definitions. Tertiary-butyl acetate (also known as t-butyl acetate or tBAC) shall be considered exempt as a reactive organic compound only for purposes of reactive organic compound emissions limitations or reactive organic compound content requirements and will continue to be a reactive organic compound for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling, and inventory requirements which apply to reactive organic compounds.

**“Waterproof Resorcinol Glue”** means a two-part resorcinol-resin-based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

**“Wood Flooring Installation”** means the installation of a wood floor surface, which may be in the form of parquet tiles, planks, or strip-wood.

**“Wood Parquet Flooring”** means wood flooring in tile form constructed of smaller pieces of wood which are joined together in a pattern by the maker to form the tile.

**“Wood Plank Flooring”** means solid or laminated wood in plank form.

**D. Requirements – Reactive Organic Compound Limits for Specific Applications of Adhesive ~~Products, or Adhesive Bonding Primers, Adhesive Primers, Sealant Products, Sealant Primers, or Any Other Primer~~**

Except as provided in Sections E and I ~~of this rule~~, no person shall ~~not~~ apply nonaerosol adhesive ~~products, adhesive bonding primers, adhesive primers, or sealant products, sealant primers, or any other primer~~ that are defined-listed under the Table 353-1 product categories and that have a reactive organic compound content (grams per liter [g/l], less water and less exempt compounds) in excess of the Table 353-1 limits. For low-solids adhesives, sealants, or primers, the reactive organic compound content is based on a g/4-grams of reactive organic compound per liter of material basis.

TABLE 353-1. REACTIVE ORGANIC COMPOUND LIMITS FOR SPECIFIC APPLICATIONS

TYPE	PRODUCT CATEGORY	ROC LIMITS (less water and exempt compounds)			
		On and After 01/01/200008/19/1 999		On and After 01/01/2000[12 months after the date of amended rule adoption]	
		(g/l)	(lb/gal)	(g/l)	(lb/gal)
1. Adhesives					
	ABS welding	400	3.3	400	3.3
	Ceramic tile installation	130	1.1	130	1.1
	Computer diskette jacket manufacturing	850	7.1	850	7.1
	Contact bond	540	4.5	250	2.1
	Contact bond-specialty substrates	540	4.5	400	3.3
	Cove base installation	150	1.3	150	1.3
	CPVC welding	490	4.1	490	4.1
	Indoor floor covering installation (except ceramic tile installation)	150	1.3	150	1.3
	Metal to urethane/rubber molding or casting	850	7.1	850250	7.12.1
	Multipurpose construction (except cove base installation)	200	1.7	20070	1.70.6
	Nonmembrane roof installation/repair	300	2.5	300	2.5
	Other plastic cement welding	510	4.3	510250	4.32.1
	Outdoor floor covering installation	250	2.1	250	2.1
	Perimeter bonded sheet vinyl flooring installation	660	5.5	660	5.5
	PVC welding	510	4.3	510500	4.34.2
	Sheet-applied rubber installation	850	7.1	850	7.1
	Single-ply roof membrane installation/repair	250	2.1	250	2.1
	Structural glazing	100	0.8	100	0.8
	Thin metal laminating	780	6.5	780	6.5
	Tire retread	100	0.8	100	0.8
	Traffic marking tape	150	1.3	150	1.3
	Waterproof resorcinol glue	170	1.4	170	1.4
2. Sealants					
	Architectural	250	2.1	250	2.1
	Marine deck	760	6.3	760	6.3
	Nonmembrane roof installation/repair	300	2.5	300	2.5
	Roadway	250	2.1	250	2.1
	Single-ply roof membrane	450	3.8	450	3.8
	Other	420	3.5	420	3.5
3. Adhesive Primers					
	Automotive glass	700	5.8	700	5.8
	Plastic cement welding	650	5.4	650	5.4
	Single-ply roof membrane	250	2.1	250	2.1
	Traffic marking tape	150	1.3	150	1.3
	Other	250	2.1	250	2.1



**TABLE 353-1. REACTIVE ORGANIC COMPOUND LIMITS FOR SPECIFIC APPLICATIONS**

TYPE	PRODUCT CATEGORY	ROC LIMITS (less water and exempt compounds)			
		On and After <u>01/01/2000</u> 08/19/1 999		On and After <u>01/01/2000</u> [12 <i>months after the date of amended rule adoption]</i>	
		(g/l)	(lb/gal)	(g/l)	(lb/gal)
4. Sealant Primers					
	Architectural – non porous	250	2.1	250	2.1
	Architectural – porous	775	6.5	775	6.5
	Marine deck	760	6.3	760	6.3
	Other	750	6.3	750	6.3

**E. Requirements – Reactive Organic Compound Limits for Nonspecific Applications of Adhesive Products, Adhesive Bonding Primers, Adhesive Primers, or Sealant Products, Sealant Primers, or Any Other Primer onto Substrates**

Except as provided below and in Section I ~~of this rule, a no~~ person shall ~~not~~ apply nonaerosol adhesive ~~products, adhesive bonding primers, adhesive primers, or sealant products, sealant primers, or any other primer~~ to a substrate that have a reactive organic compound content (~~g/4grams per liter~~, less water and ~~less~~ exempt compounds) in excess of the Table 353-2 limits. For low-solids adhesives, sealants, or primers, the reactive organic compound content is based on a ~~g/4-grams of reactive organic compound per liter~~ of material basis.

The limit for a nonspecific application onto a substrate where an operator:

1. Bonds dissimilar substrates together, is the applicable substrate category with the highest reactive organic compound content.
2. Uses an adhesive or sealant listed in Table 353-1, is the limit specified in Table 353-1 for that particular product category.

**TABLE 353-2. REACTIVE ORGANIC COMPOUND LIMITS FOR NONSPECIFIC APPLICATIONS OF ADHESIVE PRODUCTS, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, AND SEALANT PRODUCTS, SEALANT PRIMERS, OR ANY OTHER PRIMER ONTO SUBSTRATES**

SUBSTRATE/APPLICATION	ROC LIMITS (less water and exempt compounds)			
	On and After 08/19/1999		On and After [12 months after the date of amended rule adoption]	
	(g/l)	(lb/gal)	(g/l)	(lb/gal)
Flexible vinyl	250	2.1	250	2.1
Fiberglass	200	1.7	80	0.7
Metal	30	0.3	30	0.3
Porous material	120	1.0	50	0.4
Rubber	250	2.1	250	2.1
Other substrates	250	2.1	250	2.1



**F. Requirements – Aerosol Adhesives Reactive Organic Compound Limit**

Except as provided in Section I ~~of this rule~~, ~~a no~~ person shall ~~not~~ use any aerosol adhesive unless the reactive organic compound content, ~~including the propellant, does not exceed 75 percent by weight~~ complies with the Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, section 94507 et seq.

**G. Requirement – Cleanup Solvent and/or Cleanup Method**

1. ~~Before [one year from the date of amended rule adoption], Except except~~ as provided in Section I ~~of this rule~~, no person shall use materials containing reactive organic compound for the removal of ~~uncured adhesive products, adhesive bonding primers, adhesive primers, or uncured sealant products, sealant primers, or any other primer~~ from surfaces, other than spray application equipment, unless the reactive organic compound composite ~~vapor partial~~ pressure of the solvent used is less than 45 millimeters ~~(mm)~~ of mercury ~~(Hg)~~ at 20 degrees ~~(°)~~ Celsius ~~(C)~~.

Effective [one year from the date of amended rule adoption], except as provided in Sections G.2 and I, no person shall use any solvent containing more than 25 grams of reactive organic compound (0.21 pound of reactive organic compound per gallon) per liter of material for the removal of uncured adhesive products or uncured sealant products from surfaces.

2. Spray application equipment: ~~Before [one year from the date of amended rule adoption], Except except~~ as provided in Section I ~~of this rule~~, either one of the following shall be used for cleaning, flushing or soaking of filters, flushing lines, pipes, pumps, and other parts of the application equipment:
  - a. An enclosed cleaning system, or an equivalent cleaning system as determined by the test method referenced in Section N. ~~89 of this rule~~, or
  - b. A solvent with a ~~reactive organic compound~~ content of 70 grams of reactive organic compound per liter (0.6 ~~lb/gal~~ pound per gallon) of material or less. Parts containing dried adhesive may be soaked in an organic solvent as long as the reactive organic compound composite ~~vapor partial~~ pressure, ~~excluding water and exempt compounds~~, of the solvent is 9.5 ~~mm of Hg~~ millimeters of mercury at 20°C ~~degrees Celsius~~ or less and is kept in a closed container, which shall be closed except when depositing or removing parts or materials from the container.

Effective [one year from the date of amended rule adoption], except as provided in Section I, any person cleaning spray application equipment with a solvent containing more than 25 grams of reactive organic compound per liter (0.21 pound of reactive organic compound per gallon) of material shall use an enclosed cleaning system, or equipment that is proven to the satisfaction of the Control Officer to be equally effective as an enclosed cleaning system at controlling emissions. "Equal effectiveness" of an alternative cleaning system shall be determined by the test method referenced in Section N.8. If an enclosed cleaning system is used, it shall totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, and draining procedures, and it shall be used according to the manufacturer's recommendations and be closed when not in use.

**H. Requirements – Surface Preparation Solvent**

~~Before [one year from the date of amended rule adoption], Except except~~ as provided in Section I ~~of this rule~~ and for single-ply roofing, no person shall use materials containing reactive organic compounds for surface preparation unless the ~~reactive organic compound~~ content of the solvent is 70 grams of reactive organic compound per liter (0.6 ~~lb/gal~~ pound per gallon) of material or less. For single-ply roofing surface preparation solvent, the reactive organic compound composite ~~vapor partial~~ pressure, ~~excluding water and exempt compounds~~, shall not exceed 45 ~~mm of Hg~~ millimeters of mercury at 20°C ~~millimeters of mercury at 20 degrees Celsius~~.

Effective [one year from the date of amended rule adoption], except as provided in Section I and for single-ply roofing, no person shall use any solvent containing more than 25 grams of reactive organic compound per liter (0.21 pound of reactive organic compound per gallon) of material for surface preparation.

#### **I. Requirements – Alternative Compliance Provision**

A person may ~~comply elect to use an add-on control system as an alternative to meeting the requirements with the provisions of Sections D, E, F, G, and H, Q, and R of this rule by using approved add-on air pollution control equipment,~~ provided ~~that all of the applicable requirements below are met.~~ Any person choosing to install such control system shall obtain an Authority to Construct from the District prior to installation.

1. The ~~reactive organic compound emissions from such operations and/or materials are reduced by at least 85 percent overall capture and destruction efficiency (the capture efficiency multiplied by the control device efficiency) of the total system shall be at least 85.0 percent, by weight.~~ Alternatively, the control device reactive organic compound exhaust concentration shall not exceed 10 parts per million by volume as propane or other limit approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
2. Combustion temperature ~~is~~ shall be continuously monitored when operating a thermal incinerator.
3. Inlet and exhaust gas temperatures ~~are~~ shall be continuously monitored when operating a catalytic incinerator.
4. Control device efficiency ~~is~~ shall be continuously monitored when operating a carbon adsorber or control device other than a thermal or catalytic incinerator.~~, and~~
5. ~~Written approval for such equipment, in the form of an Authority to Construct and a Permit to Operate, is received from the Control Officer.~~ Compliance through the use of an emission control system shall not result in affected pollutant emissions in excess of the affected pollutant emissions that would result from compliance with Sections D, E, F, G, H, Q, and R.

#### **J. Requirements – ~~Storage of Reactive Organic Compound Containing Materials~~ General Operating**

Any person who owns, operates, or uses any application equipment to apply any adhesive products or sealant products shall ensure the coating operation and any solvent cleaning associated with such operation meets the following requirements:

1. All reactive organic compound-containing materials, ~~used or unused,~~ including, ~~but not limited to,~~ adhesive products, sealant products, and reactive organic compound-laden cloth or paper used ~~in~~ in solvent cleaning and stripping ~~of~~ cured adhesives, shall be stored ~~or and~~ disposed ~~of~~ in non-absorbent and nonleaking containers ~~equipped with tight-fitting covers, which shall be closed except when depositing or removing materials from the container.~~ All covers shall be in place unless adding material to or removing material from the containers, the containers are empty, or doing maintenance/inspection of the containers.
2. All application equipment, ventilation system, and emission control equipment shall be installed, operated, and maintained consistent with the manufacturer's specifications.
3. Waste solvent, waste solvent residues, and any other waste material that contains reactive organic compounds shall be disposed of by one of the following methods:
  - a. A commercial waste solvent reclamation service licensed by the State of California.
  - b. At a facility that is federally or state licensed to treat, store or dispose of such waste.

c. Recycling in conformance with Section 25143.2 of the California Health and Safety Code.

4. All covers, valves, drain plugs, and other closure devices designed to reduce evaporation of reactive organic compound-containing materials shall not be removed or opened except to process work or to perform monitoring, inspections, maintenance, or repairs that require the removal of the covers or other closure devices.
5. Any reactive organic compound-containing material spills shall be wiped up immediately and the used absorbent material (e.g., cloth, paper, sand, sawdust, etc.) shall be stored in closed containers that are handled in accordance with Section J.1.
6. The handling and transfer of coatings, strippers, and cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent coatings, strippers, and cleaning solvents shall be conducted in such a manner that minimizes spills.
7. Containers used to store adhesive products, and sealant products, solvent, or any waste material that contains reactive organic compounds subject to this rule shall be marked or clearly labeled indicating the name of the material they contain.

**K. Requirements – Prohibition of Sales**

1. Except as provided in Section B.310 of this rule, ~~after the specified effective dates,~~ no person shall supply, sell, or offer for sale any ~~nonaerosol adhesives product, adhesive bonding primers, adhesive primers, sealants or sealant product, sealant primers, or any other primer~~ that, at the time of sale, ~~is listed in Section D Table 353-1 and exceeds the corresponding reactive organic compound limits therein, listed in Table 353-1 and is defined under a product category in Table 353-1.~~
2. Except as provided in Section B.310 of this rule, no person shall supply, sell, or offer for sale, any aerosol adhesive unless, at the time of sale, the ~~reactive organic compound content, including the propellant, does not exceed 75 percent by weight~~ provisions of the Air Resources Board consumer product regulation, found in Title 17 of the California Code of Regulations, section 94507 et seq., are met.

**L. Requirements – Manufacturer Compliance Statement and Labeling**

The manufacturer of any adhesive ~~products, adhesive bonding primers, adhesive primers, or sealant products; sealant primers, or any other primer~~ subject to this rule shall ~~display the~~ include a designation of the maximum reactive organic compound or volatile organic compound content as supplied, expressed in grams per liter or pounds per gallon excluding water and exempt compounds determined by from the appropriate test method, on labels or containers and data sheets. This designation shall ~~display include~~ recommendations regarding thinning, reducing, or mixing with any other reactive organic compound- or volatile organic compound-containing material. This information shall include the maximum reactive organic compound or volatile organic compound content on an as-applied basis when used in accordance with the manufacturer's recommendations.

**M. Requirements – Prohibition of Specification**

No person shall solicit, require for use, or specify the application of any adhesive ~~products, adhesive bonding primers, adhesive primers, sealant products, or associated solvent sealant primers, or any other primer,~~ if such use or application results in a violation of the provisions of this rule. This prohibition shall apply to all written or oral contracts.

N. Monitoring Requirements – Compliance Provisions and Test Methods

1. ~~The volatile organic compound and solids content of all nonaerosol adhesive products, adhesive primers, sealant products, and cleaning-associated solvents reactive organic compound content, except as specified in Section N.4 of this rule, shall be determined using Environmental Protection Agency Reference Method 24 (40 CFR Part 60, Appendix A), its constituent methods, or an equivalent method approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer or South Coast Air Quality Management District Method 304. The reactive organic compound content of materials containing 50 grams of reactive organic compound per liter or less shall be determined by the South Coast Air Quality Management District Method 313-91, "Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry," June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.~~ Except as specified in Section N.4, nonaerosol adhesive products, adhesive primers, sealant products, and cleaning-associated solvents reactive organic compound content, except as specified in Section N.4 of this rule, shall be determined using Environmental Protection Agency Reference Method 24 (40 CFR Part 60, Appendix A), its constituent methods, or an equivalent method approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer or South Coast Air Quality Management District Method 304. The reactive organic compound content of materials containing 50 grams of reactive organic compound per liter or less shall be determined by the South Coast Air Quality Management District Method 313-91, "Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry," June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
2. Exempt organic compounds shall be determined using ASTM D4457-1991, "Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph," ASTM International. Alternatively, determination of exempt compounds may be performed in accordance with the South Coast Air Quality Management District Method 303-91, "Determination of Exempt Compounds," August 1996. For exempt compounds where no reference test method is available, a facility requesting the exemption shall provide appropriate test methods approved by the Control Officer and approvable by the Air Resources Board and the Environmental Protection Agency.
3. The ~~volatile-reactive~~ organic compound content of aerosol adhesives and aerosol adhesive primers shall be determined using South Coast Air Quality Management District Test Method 305-91, "Determination of Volatile Organic Compounds in Aerosol Applications," June 1993, or Air Resources Board Method 310, "Determination of Volatile Organic Compounds in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products," June 22, 2000, upon the Environmental Protection Agency approval of Method 310.
4. The ~~volatile-reactive~~ organic compound content of any plastic welding cement adhesive or primer shall be determined using South Coast Air Quality Management District Method 316A-92, "Determination of Volatile Organic Compound (VOC) in Materials Used for Pipes and Fittings," October 1996.
5. ~~The composite vapor pressure of organic compounds in cleaning materials shall be determined by quantifying the amount of each compound in the blend using gas chromatographic analysis (ASTM E260-96) for organics and ASTM D3792-91 for water content, as applicable, and the following equation:~~

$$Pp_c = \frac{\sum_{i=1}^n (W_i)(VP_i) / Mw_i}{W_w / Mw_w + \sum_{i=1}^n W_e / Mw_e + \sum_{i=1}^n W_i / Mw_i}$$

Where:

$Pp_c$  = VOC composite partial pressure at 20°C, in mm Hg.

$W_i$  = Weight of the "i"th VOC compound, in grams, as determined by ASTM E260-96.

$W_w$  = Weight of water, in grams as determined by ASTM D3792-91

$W_e$  = Weight of the "i"th exempt compound, in grams, as determined by ASTM E260-96.

~~$Mw_i$  = Molecular weight of the "i"th VOC compound, in grams per grams mole, as given in chemical reference literature.~~

~~$Mw_w$  = Molecular weight of water, 18 grams per g mole.~~

~~$MW_e$  = Molecular weight of the "i"th exempt compound, in grams per g mole, as given in chemical reference literature.~~

~~$VP_i$  = Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by Section N.6 of this Rule.~~

5. Reactive organic compound composite partial pressures shall be measured using ASTM D 2879-1997, "Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope," ASTM International, in combination with the formula in the Rule 102 definition of "reactive organic compound composite partial pressure," manufacturer's specified reactive organic compound composite partial pressure, or an accepted scientific reference approved the Environmental Protection Agency, the Air Resources Board, and the Control Officer.

6. The vapor pressure of each single component compound may be determined from ASTM D2879-96 or may be obtained from a published source approved by the Control Officer, such as the sources referenced in 40 CFR 52.741, or the most current edition of a published source, including, but not limited to: a). The Vapor Pressure of Pure Substances, Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York; b). Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company; c). CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company; and d) Lange's Handbook of Chemistry, John Dean, editor, McGraw-Hill Book Company.

76. The measurement of capture efficiency for reactive organic compound emissions of an emission control system shall be conducted and reported in accordance with the recently approved Environmental Protection Agency Technical Document "Guidelines for Determining Capture Efficiency," issued January 9, 1995, or a District capture efficiency determination method approved by the Environmental Protection Agency determined by verifying the use of a Permanent Total Enclosure and 100 percent capture efficiency as defined by Environmental Protection Agency Method 204, "Criteria for and Verification of a Permanent or Temporary Total Enclosure." Alternatively, if an Environmental Protection Agency Method 204 defined Permanent Total Enclosure is not employed, capture efficiency shall be determined using a minimum of three sampling runs subject to data quality criteria presented in the Environmental Protection Agency technical guidance document "Guidelines for Determining Capture Efficiency, January 9, 1995." Individual capture efficiency test runs subject to the Environmental Protection Agency technical guidelines shall be determined by:

a. The Temporary Total Enclosure approach of Environmental Protection Agency Methods 204 through 204F; or

b. The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency," May 1995

87. The measurement of control device efficiency for reactive organic compound emissions shall be in accordance with determined by Environmental Protection Agency Methods 25, 25A, 25B, or the South Coast Air Quality Management District Method 25.1, "Determination of Total Gaseous Non-Methane Organic Emissions as Carbon," February 1991, or the South Coast Air Quality Management District Method 25.3, "Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources," March 2000, as applicable. Environmental Protection Agency Test Method 18 or Air Resources Board Method 400.422, "Exempt Halogenated VOCs in Gases," September 12, 1990, shall be used to determine emissions of exempt compounds.

98. The active and passive solvent losses from spray gun cleaning systems shall be determined using South Coast Air Quality Management District's, "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems," dated October 3, 1989. The test solvent for this determination shall be any lacquer thinner with a minimum ~~vapor reactive organic compound composite partial~~ pressure of 105 ~~mm of Hg~~ millimeters of mercury at 20°C degrees Celsius, and the minimum test temperature shall be 15°C degrees Celsius.
409. To determine if a diluent is a reactive diluent, the percent of the reactive organic compound that becomes an integral part of the finished material shall be determined using the South Coast Air Quality Management District Method 316A-92, "Determination of Volatile Organic Compound (VOC) in Materials Used for Pipes and Fittings," October 1996.
10. Application equipment coating transfer efficiencies shall be measured using South Coast Air Quality Management District Method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 1989.
11. The capture efficiency requirement for toxic air contaminant emissions that are not reactive organic compounds shall be determined by using the methods described in Section N.6 modified in a manner approved by the District to quantify the mass of liquid or gaseous reactive organic compounds and/or toxic air contaminants.
12. The control device efficiency requirement for toxic air contaminant emissions that are not reactive organic compounds shall be determined using:
- a. an Environmental Protection Agency approved test method or methods, or
  - b. in the case where there is no Environmental Protection Agency approved test method, a District approved detection method applicable for each target toxics specie.
  - c. the Control Officer may require more than one test method on any emission control device where necessary to demonstrate that the overall efficiency is at least 85 percent by weight in reducing emissions of reactive organic compounds and/or toxic air contaminants. Any technique to convert "parts per million by volume" test method results to either 1) "parts per million by weight," or 2) "mass emission rates" (e.g., pounds per hour) shall first be approved by the Control Officer and, if such approval is not provided, then the technique shall not be used to show compliance with this rule.
13. Viscosity will be determined by ASTM D 1084-88, "Standard Test Methods for Viscosity of Adhesives," ASTM International.
14. Emissions of reactive organic compounds from the exhaust of an emission control system shall be measured by the Environmental Protection Agency Method 25, in combination with Environmental Protection Agency Method 18 or the California Air Resources Board Method 422, "Exempt Halogenated VOCs in Gases," September 12, 1990 (to determine emissions of exempt compounds).
15. When more than one test method or set of test methods are specified for any testing, a test result showing an exceedance of any limit of this rule shall constitute a rule violation.
16. The Environmental Protection Agency test methods in effect on [date of amended rule adoption] shall be the test methods used to meet the requirements of this rule.

O. **Requirements – Recordkeeping**

Any person subject to this rule that manufactures or applies any adhesive product or ~~adhesive bonding primer, adhesive primer, sealant product, sealant primer, or any other primer~~ shall comply with the following requirements. Any owner or operator of any stationary source comprised of more than one facility may comply with the following requirements on a facility basis.

1. Maintain a current list file of each ~~all~~ adhesive, adhesive bonding primer, adhesive primer, sealant, sealant primer, any other primer, and solvent reactive organic compound-containing materials in use at the stationary source subject to this rule and in storage. The file shall provide all of the data necessary to evaluate compliance and shall include, ~~but not be limited to~~, the following information, as applicable:
  - a. ~~A data sheet or material list giving the~~ material name, manufacturer identification, ~~and material application (e.g., brand name, stock identification number);~~
  - b. application method;
  - c. material type, manufacturer's specific use instructions (e.g., specific use for which the material is intended), type operation (e.g., coating, stripping, or solvent cleaning), and, for coating operations, the product type, type of substrate coated, and type of application (i.e., the adhesive product and sealant product type from Table 353-1 or Table 353-2);
  - ~~b.d.~~ Any catalysts, reducers, or other components used and the specific mixing ratio data (e.g., component volumes or weights) of each component for each batch sufficient to determine the mixture's reactive organic compound content;
  - ee. ~~The applicable corresponding~~ reactive organic compound ~~content~~ limit(s) ~~or vapor pressure limit from Sections D, E, F, G, and H of this rule from Sections D, E, F, G, H, and R~~ and the actual as applied reactive organic compound content of the materials used, ~~as applied, or. If complying using the "reactive organic compound vapor composite partial pressure" method, provide the actual reactive organic compound composite partial pressure of the adhesive, sealant, primer, or solvent materials used.~~
  - f. current adhesive product, sealant product, stripper, and solvent manufacturer specification sheets, Material Safety Data Sheets, product data sheets, or air quality data sheets, which list the reactive organic compound content of each material in use at the stationary source subject to this rule. Compliance with this provision may be done by ensuring the manufacturer's specifications are listed on the product container.
2. Maintain records for each reactive organic compound-containing material purchased for use at the stationary source. The records shall include, but not be limited to, the following:
  - a. material name and manufacturer identification (e.g., brand name, stock identification number); and
  - b. material type (e.g., adhesive product and sealant product type from Tables 353-1 and 353-2, cleanup solvent, stripper, etc.).
3. Maintain records of the disposal method each time waste solvent, ~~or~~ waste solvent residue, or other waste material that contain reactive organic compounds is removed from the stationary source for disposal.
24. Maintain records of the monthly volume of each ~~adhesive, adhesive bonding primer, adhesive primer, sealant, sealant primer, other primers, or solvent~~ used. For each material maintained in response to Section O.1.a, maintain, at a minimum, on a monthly basis for compliant material and on a daily basis for noncompliant material, a record of the following:



- a. volume used (gallons per day, gallons per month);
- b. reactive organic compound content (grams per liter or pounds per gallon); and
- c. resulting reactive organic compound emissions (pounds per day, pounds per month).

35. ~~When compliance is achieved through the use of add-on~~ For any stationary source that uses emission control equipment, as an alternative to meeting the requirements of Sections D, E, F, G, H, Q, or R, maintain daily records on a daily basis of key operating parameters values and maintenance procedures that demonstrate continuous operation and compliance of the for the emission control equipment during periods of emission producing activities shall be maintained. These parameters shall, including include, but not be limited to:

- a. Hours of operation;
- b. ~~Routine and nonroutine maintenance.~~ All maintenance work that requires the emission control system to be shut down;
- c. ~~The applicable information specified in Section I of this rule.~~ All information needed to demonstrate continuous compliance with Section I, such as temperatures, pressures, and/or flow rates.
- d. ~~The daily volume of each noncompliant adhesive, sealant, primer, or solvent used.~~

46. ~~All Any records shall be required to be maintained pursuant to this rule shall be kept on site for at least two (2) years and shall be available for inspection unless a longer retention period is otherwise required by state or federal regulation(s). Such records shall be readily available for~~ Thereafter, the records shall be maintained either on site or readily available for expeditious inspection and review by the District for an additional three (3) years.

#### **P. Rule Effective Date Compliance Schedule**

Any person subject to this rule shall meet the following compliance schedule:

- 1. By [30 days from the date of amended rule adoption], comply with Section J, Requirements - General Operating.
- 2. By [six months from the date of amended rule adoption], comply with the recordkeeping provisions in the following Sections:
  - a. O.1.d - mixing data,
  - b. O.1.e - reactive organic compound content data or stripper composite partial pressure data,
  - c. O.2 - purchase records,
  - d. O.3 - waste disposal records, and
  - e. O.4 - daily records for noncompliant materials.
- 3. By [one year from the date of amended rule adoption], comply with the applicable provisions in Sections G and H that have a phased-in effective date.
- 4. By [one year from the date of amended rule adoption], comply with Section Q, R, and T requirements.



5. By [date of amended rule adoption], comply with all other provisions of this rule.

**Q. Requirement – Adhesive and Sealant Application Equipment**

Effective [one year from the date of amended rule adoption], no person shall apply adhesives or sealants unless the application is performed with equipment operating according to the manufacturers operating guidelines. In addition, except as provided in Section I, the application method employed shall be one of the following:

1. Electrostatic spray application, or
2. Flow coat application, or
3. Dip coat application, or
4. Roll Coater, or
5. High volume low pressure spraying equipment, or
6. Electrodeposition, or
7. Hand application methods, or
8. Any other application method approved by the Control Officer, the Air Resources Board, and the Environmental Protection Agency, that has a coating transfer efficiency equivalent to or greater than 65 percent efficiency as measured using the test method specified in Section N.10.
9. Except as otherwise provided in Section Q.10, air-atomized spray may only be used for the application of contact adhesives or specialty contact adhesives.
10. For adhesive products and sealant products with an as applied viscosity of 200 centipoise or greater, airless spray, air-assisted airless, and air-atomized spray may be used.

**R. Requirements – Coating Stripper Use**

Effective [one year from the date of amended rule adoption], except as provided in Section I, no person shall apply any stripper or solicit the use of any stripper unless it complies with one or both of the following:

1. The stripper contains less than 300 grams of reactive organic compound per liter (2.5 pounds of reactive organic compound per gallon) of material.
2. The stripper has a reactive organic compound composite partial pressure equal to or less than 9.5 millimeters of mercury at 20 degrees Celsius.

**S. Reporting Requirements**

Submittal of an annual report to the District is required if a person holds a permit for applying adhesive products or sealant products subject to this rule. The annual report shall be due March 1 and it shall contain the following information for the previous calendar year:

1. monthly totals (gallons) of compliant and noncompliant material used based on the records required by Section O.4,
2. annual totals (gallons) based on each of the coating's, solvent's, and stripper's monthly data, and

3. name and address of the owner or operator, and the Permit to Operate number that the adhesive products and/or sealant products application operations are subject to.

**T. Requirements - Solvent Cleaning Machine**

Any person who owns, operates, or uses any solvent cleaning machine shall comply with the applicable provisions of Rule 321, Solvent Cleaning Machines and Solvent Cleaning.

APPROVED AS TO FORM:

DENNIS A. MARSHALL  
SANTA BARBARA COUNTY COUNSEL

By \_\_\_\_\_  
Deputy  
Attorneys for the Santa Barbara County  
Air Pollution Control District

## ATTACHMENT 5

### STAFF REPORT

#### PROPOSED AMENDED RULES:

- 102 (DEFINITIONS),
- 202 (EXEMPTIONS TO 201),
- 321 (SOLVENT CLEANING MACHINES AND SOLVENT CLEANING)
- 330 (SURFACE COATING OF METAL PARTS AND PRODUCTS,
- 337 (SURFACE COATING OF AEROSPACE VEHICLES AND COMPONENTS,
- 349 (POLYESTER RESIN OPERATIONS, AND
- 353 (ADHESIVES AND SEALANTS)

June 21, 2012

Santa Barbara County Air Pollution Control District

260 San Antonio Road, Suite A  
Santa Barbara, California 93110

(805) 961-8800

## ***Attachment 5***

### ***Staff Report***

[This is being provided on disk. Hard copies are available upon request.]

## ATTACHMENT 6

### ENVIRONMENTAL REVIEW AND ADDENDUM TO 2010 CLEAN AIR PLAN EIR

#### PROPOSED AMENDED RULES:

- 102 (DEFINITIONS),
- 202 (EXEMPTIONS TO 201),
- 321 (SOLVENT CLEANING MACHINES AND SOLVENT CLEANING)
- 330 (SURFACE COATING OF METAL PARTS AND PRODUCTS,
- 337 (SURFACE COATING OF AEROSPACE VEHICLES AND COMPONENTS,
- 349 (POLYESTER RESIN OPERATIONS, AND
- 353 (ADHESIVES AND SEALANTS)

June 21, 2012

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# MEMORANDUM

**TO:** Douglas Grapple

**FROM:** Eric Gage

**DATE:** May 17, 2012

**SUBJECT:** Environmental Review and Addendum to 2010 Clean Air Plan EIR for the 2012 Amendments to Add Solvent Cleaning Provisions to:

- Rule 330 (Surface Coating of Metal Parts and Products),
- Rule 337 (Surface Coating of Aerospace Vehicles and Components),
- Rule 349 (Polyester Resin Operations), and
- Rule 353 (Adhesives and Sealants)

Also, Amend the “Reactive Organic Compound” Definition in Rule 102 (Definitions) and Slight Changes to 1) Rule 202 (Exemptions to Rule 201), and 2) Rule 321 (Solvent Cleaning Machines and Solvent Cleaning)

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## 1.0 BACKGROUND

The Santa Barbara County Air Pollution Control District (District) proposes to add solvent cleaning provisions to several coating rules and the rule on polyester resin operations. Additional details on the project are shown in the *Project Description Summary for Proposed Rule Amendments* below. The following is a brief background on the rules that are proposed for amendment.

The District adopted an initial metal coating rule in 1979. Amendments to Rule 330 (metal coatings) in 2000 addressed U.S. Environmental Protection Agency (USEPA) deficiencies. Rule 337 (adopted 1990) fulfilled a 1989 mandate that aircraft and aerospace coatings be controlled at the limitations outlined in the USEPA *Control Techniques Guidelines for Surface Coating of Miscellaneous Metal Parts and Products*. The last significant amendments made to Rule 337 occurred in 1994.

Rule 349 Polyester Resin Operations, adopted 1993) and Rule 353 (Adhesives and Sealants, adopted 1999) largely follow guidelines from the California Air Resources Board (ARB).<sup>a</sup> The current rulemaking actions constitute the first amendments to be made to Rules 349 and 353.

Rule 102 (Definitions, adopted 1971) includes a definition of reactive organic compounds, which was last updated in September 2010 to include some of the USEPA-recognized exempt compounds.

## 2.0 REASON FOR THIS ADDENDUM TO THE 2010 CLEAN AIR PLAN EIR

The 2010 Clean Air Plan (CAP) included new control measure options for Rules 321, 330, 337, 349, and 353. The District prepared a program Environmental Impact Report (EIR) pursuant to the California

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<sup>a</sup> Determination of Reasonably Available Control Technology and Best Available Retrofit Control Technology for Polyester Resin Operations (1991) and Adhesives and Sealants (1998).

Environmental Quality Act (CEQA) to analyze the potential environmental impacts of implementing the 2010 CAP (State Clearing House #2010071014). The 2010 CAP EIR adequately describes most of the new control techniques and associated environmental impacts. Staff is relying on it for making some of the conclusions in this Addendum.

The 2010 CAP EIR includes a discussion of the potential for conventional solvents to be replaced by other solvents that may have toxic attributes. The CAP EIR concludes that this potential impact is less than significant. However, the CAP EIR also indicates that, if deemed necessary, any additional impacts related to an increased use of toxic materials will be re-assessed as part of the CEQA analysis for the rulemaking process (CAP EIR Section 4.1.2, Pages 4-2 to 4-3).

There are some newer aspects of the project that were not analyzed in the 2010 CAP EIR (see *Project Description Summary for Current Rulemaking Effort*, below) that warrant additional examination under CEQA. However, none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR will occur. Therefore, pursuant to Section 15164 of the State CEQA Guidelines, and the explanation set forth below, the District prepared this Addendum to the 2010 CAP EIR.

## **2.1 Summary of 2010 Clean Air Plan Control Measures**

Section 4.5, Table 4-3, of the 2010 CAP identifies control measures related to the solvent cleaning provisions of several coatings. Section 4.5 also includes a discussion of the measures, summarized below:

The District intends to add new solvent cleaning requirements to several operation-specific rules. Staff anticipates that the order of the operation-specific rule revisions will be generally consistent with those shown in prior clean air plans:<sup>a</sup>

1. Rule 330, Surface Preparation and Surface Coating of Metal Parts and Products.
2. Rule 337, Surface Preparation and Surface Coating of Aircraft or Aerospace Vehicle Parts and Products.
3. [ . . . ]
4. Rule 349, Polyester Resin Operations.
5. Rule 353, Adhesives and Sealants. [ . . . ]

## **2.2 Summary of Proposed Rule Amendments**

The proposed amended rules include new or amended solvent cleaning provisions. These provisions include requirements for use of low emission materials, methods, and operating procedures. Amended Rules 330, 349, and 353 will limit the cleaning solvent reactive organic compound content to 25 grams per liter. Rule 337 will limit the solvent reactive organic compound content to 200 grams per liter or require the solvent to have a reactive organic compound composite partial pressure of 45 millimeters of mercury at 20 degrees Celsius. Coating limits and polyester resin material monomer content limits are being changed to reflect those found in USEPA Control Techniques Guideline documents or other

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<sup>a</sup> The actual sequence of the proposed rule revisions may change within their respective near- or mid-term timeframes. To meet the requirement to adopt every feasible control measure, there may also be: 1) revisions to the ROC-content limits for other process materials (e.g., coatings, adhesives, sealants, inks, resins), 2) a maximum allowable ROC-content limit that is lower than 50 grams per liter (e.g., a limit of 25 grams of ROC per liter), and 3) revisions to the equipment and operation requirements.



California air district rules. Changes to other rule provisions (e.g., exemptions, definitions, recordkeeping, annual reports) are also proposed to address comments from stakeholders.

In conjunction with the rule changes noted above, amended Rule 102, Rule 202, and Rule 321 will be considered for adoption. The District proposes to update the Rule 102 reactive organic compound definition, which includes:

- 1) adding an enclosed cleaning system definition,
- 2) adding an exempt compound definition,
- 3) adding chemical names to the fluorinated gases definition,
- 4) adding terms common to the proposed amended rules.

Proposed amendments to Rule 202 include replacing the approved test method for ROC content (currently USEPA Method 24) with South Coast AQMD Method 313, and making other minor revisions (e.g., add rule titles and test method titles).

The minor amendment to the Rule 321, Section B.6 exemption will clarify that the exemption does not apply to solvent cleaning machines when an operation-specific rule indicates such equipment is subject to Rule 321.

## 2.3 Differences Between 2010 Clean Air Plan Control Measures and Proposed Rule Amendments

The following discussion presents the differences between the control measures related to solvent cleaning provisions that were included in the 2010 CAP and the currently proposed rule amendments.

- A. Lower Estimated ROC Emission Reductions. The assessment for the currently proposed rule amendments shows an ROC emission reduction shortfall of 4.5 pounds per day for calendar year (CY) 2020 when compared to the 2010 CAP plan estimate.

Rule	2010 CAP ROC Emission Reduction Estimate for CY 2020 (TPD) <sup>a</sup>	Rulemaking ROC Emission Reduction Estimate for CY 2020 (TPD)	Difference <sup>b</sup>
330	0.0212	0.0223	0.0011
337	0.0006	0.0000	-0.0006
349	0.0058	0.0037	-0.0021
353	0.0050	0.0043	-0.0007
Total	0.0325	0.0303	-0.0023

This emission reduction shortfall is predicted to occur due to several factors. Staff used a more recent inventory (calendar year 2009 base year). Also, based on input from industry representatives, the District added exemptions not previously considered. Hence, there is a slightly smaller estimated ROC emission reduction.

- B. Adding the Solvent Definition to Rules 330, 337, 349, and 353. The District is adding the same solvent definition found in Rule 321 to each of these rules. The difference between the Rule 321 and the Rule 102 solvent definition is that the Rule 321 solvent definition includes a toxic air

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<sup>a</sup> Based on calendar year 2007 inventory data.

<sup>b</sup> Note: The 0.0023 Tons per Day (TPD) difference equates to 4.5 pounds per day, 0.8291 tons per year, or 1658 pounds per year.

contaminant (TAC) aspect. The inclusion of the TAC aspect in the solvent definition in Rules 330, 337, 349, and 353 will result in beneficial impacts because any TAC solvent classified as a non-ROC solvent will become subject to Rule 330, 337, 349, and/or 353.

- C. Including Amendments to Rules 102, 202, and 321. The District added administrative- and implementation-type changes to the project: amendments to Rule 102 (Definitions), Rule 202 (Exemptions from Rule 201), and Rule 321 (Solvent cleaning Machines and Solvent Cleaning). With the exception of changes to a Rule 102 definition, there clearly is no potential for environmental impacts beyond what was analyzed in the 2010 CAP EIR. One aspect of the proposed rule amendments that requires additional examination to assess whether impacts are anticipated to occur is the following proposed amendment to Rule 102:

The revised Rule 102 *reactive organic compound* definition will include all of the 40 CFR, Part 51.100(s) exempt compounds.<sup>a</sup>

The potential for an increased use of these compounds should be examined to determine whether their use could cause impacts to global warming, stratospheric ozone depletion, or toxic air contaminant emission levels.

### **3.0 ASSESSMENT OF WHETHER THE PROJECT WILL CAUSE ADDITIONAL ENVIRONMENTAL IMPACTS NOT ANALYZED IN THE 2010 CLEAN AIR PLAN EIR**

Pursuant to Section 15168(c) of the State CEQA Guidelines, the District examined proposed revisions to Rules 102, 202, 330, 337, 349, and 353 in the light of the program EIR for the 2010 CAP to determine whether an additional environmental document must be prepared. The District found that there were minor technical changes in the 2011 amendments to Rules 102, 202, 330, 337, 349, and 353 that were not examined in the 2010 CAP EIR. Based on the explanation set forth below, the APCD has prepared this Addendum to the 2010 CAP EIR.

#### **3.1 Rule 330, Rule 337, Rule 349, and Rule 353 Environmental Impact Analyses**

The 2010 CAP EIR analysis is sufficient for the control techniques associated with these rules (Group 1 proposed control measures). Therefore, no additional environmental impacts beyond those examined in the 2010 CAP EIR are anticipated to result from the application of these control techniques. The following discussion supports this assertion.

##### SHORTFALL OF ROC EMISSION REDUCTIONS

The currently projected ROC emission reductions for calendar year 2020 are about 8 tons per year. The 2010 CAP ROC emission reductions are about 0.8 tons per year higher. However, the fact that the proposed rule amendments do not achieve the estimated emission reductions shown in the 2010 CAP does not create any new significant impacts.

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<sup>a</sup> On March 23, 2012 the USEPA proposed to add exempt compounds to 40 CFR 51.100(s) (reference: 77 FR 16981). As of the date of this memorandum, the USEPA has not issued a final rule on adding the additional exempt compounds. Thus, compounds listed in the USEPA proposal are not included in the District's Rule 102 amendments to the definition of *reactive organic compound*.

## “SOLVENT” DEFINITIONS INCLUDING A “TOXIC AIR CONTAMINANT” FACET AND ITS IMPACTS TO RULE IMPLEMENTATION

A non-ROC cleaning agent that contains a toxic air contaminant will be subject to Rules 330, 337, 349, and 353 provisions.<sup>a</sup> In such cases, complying equipment/operations will have reduced TAC emissions through the control techniques necessary to meet the amended rule requirements.

The following non-ROC compounds are TAC compounds:

- methylene chloride (DCM),
- perchloroethylene (PERC),
- 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113),
- 1,1,1-trichloroethane (TCA),
- trichlorofluoromethane (CFC-11), and
- tert-Butyl acetate.

Hence, the use of these compounds when performing solvent cleaning will be subject to the amended rules.<sup>a</sup>

### **3.2 Rule 102 Environmental Impact Analysis**

#### NEW AND MODIFIED DEFINITIONS OTHER THAN “REACTIVE ORGANIC COMPOUND”

The addition of nine new terms and the amendments to the *fluorinated gases* definition provide rule clarity and will not impact the environment.

#### ADDING EXEMPT COMPOUNDS TO THE REACTIVE ORGANIC COMPOUND DEFINITION

The following table provides information on the four exempt compounds being added.

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<sup>a</sup> Unless the solvent is exempt because the TAC component is 2% or less by volume.

## SUMMARY OF INFORMATION ON NEW EXEMPT COMPOUNDS

Compound (Chemical Abstract Name) [Chemical Abstracts System Number]	Stratospheric Ozone Depleting Potential (ODP) <sup>a</sup>	Global Warming Potential (GWP) (100 Years) <sup>b</sup>	Manufacturers Recommended Acceptable Exposure Limit (Parts Per Million over an Eight-Hour Time Weighted Average)
HFC-227ea (1,1,1,2,3,3,3-heptafluoropropane) [431-89-0]	0.00	2,900	1,000
HFE-7000; n-C <sub>3</sub> F <sub>7</sub> OCH <sub>3</sub> ; (1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane) [375-03-1]	0.00	400	75
HFE-7300; ((1) 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy- 4-trifluoromethyl-pentane) [132182-92-4]	0.00	200	100
HFE-7500; (3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2- (trifluoromethyl) hexane) [297730-93-9]	0.00	100	100

The compound commonly known as HFC-227ea is a gas under standard condition, and is used as an aerosol propellant in consumer products such as medications and as a fire suppressant in personal fire extinguishers. The use of HFC-227ea in consumer products is the regulatory jurisdiction of the California Air Resources Board rather than the District. Due to its specialized uses in consumer products, the proposed exemption of HFC-227ea is not anticipated to cause reformulation or other changes to industrial processes that the District regulates. Any anticipated increase in the use of HFE-227ea would be speculative in nature. If, after a thorough investigation, a potential impact is deemed to be speculative, further evaluation is not required under CEQA (CEQA Guidelines Section 15145). Environmental impacts are not anticipated to result from including HFC-227ea in the list of exempt compounds in the Rule 102 definition of ROC.

The three compounds commonly known as HFE-7000, HFE-7300, and HFE-7500 are chemicals with similar properties. They may be used for refrigeration, aerosol propellants, electronics testing, cleaning, and cooling, and other specialized industrial and pharmaceutical applications. HFEs have been identified in the EPA's Significant New Alternative Policy (SNAP) program as possible substitutes for Chlorofluorocarbons (CFC). CFCs in general have global warming potential (GWP) values exceeding 1000, in addition to having some of the highest known ozone depletion potential (ODP) values. The three HFEs proposed for exemption have an ODP value of zero and GWP values ranging from 100 to 400. None of these compounds are listed in the federal or state lists of Toxic Air Contaminants (TACs). According to Material Safety Data Sheet information, they have a low overall toxicity, including minimal skin and eye irritation, and no adverse effects in a 28-day oral toxicity study. The three HFE compounds being considered for exemption may have significant beneficial impacts for stratospheric ozone and climate change as they serve to replace CFCs, which have much higher global warming potential and

<sup>a</sup> Ozone depleting potential is defined as the total ozone destruction that results per unit mass of a species emitted per year relative to that for a unit mass emission of CFC-11.

<sup>b</sup> Global warming potential is an index for estimating relative global warming contribution due to atmospheric emission of one kilogram of a particular greenhouse gas compared to the emission of one kilogram of carbon dioxide for a certain time horizon (IPCC, 2007). Lower numbers have the least impact. Data is from the United Nations Framework Convention on Climate Change (UNFCCC), [www.unfccc.int/ghg\\_data/items/3825.php](http://www.unfccc.int/ghg_data/items/3825.php).

ozone depletion potential. The three HFE compounds are not expected to adversely impact human health due to their low toxicity, and because their specialized industrial uses necessitate controlled environments and handling, minimizing exposure to individuals and the environment.

### **3.3 Rule 202 Environmental Impact Analysis**

#### CHANGES IN 202.C AND 202.D.5, 6, 9, 10, 16, AND 17

The addition of titles to referenced rules, elimination of an acronym, and minor text changes in 202.D.10 are administrative in nature and have no potential environmental impacts.

#### CHANGES TO 202.I.3, U.2, U.3

The test method revisions will not cause any environmental impacts.

#### UPDATING THE ASTM DATA IN 202.V

The ASTM data changes will not cause any environmental impacts.

### **3.4 Consistency with the 2007 and 2010 CAP:**

Except as otherwise noted herein, the proposed amended Rule 330, 337, 349, and 353 are consistent with the 2007 and 2010 CAP.

## **4.0 CONCLUSION**

Pursuant to Section 15164 of the State CEQA Guidelines, and the explanations set forth above, the APCD has prepared this Addendum to the 2010 CAP EIR. No new mitigation measures are required and the APCD can approve the amendments to Rules 102, 202, 321, 330, 337, 349, and 353 as being within the scope of the project covered by the 2010 CAP EIR. No additional environmental impacts are anticipated to occur as a result of the differences between the control measures that were analyzed in the 2010 CAP EIR and the currently proposed rule revisions. No new environmental document is required.



ATTACHMENT 7

FINAL ENVIRONMENTAL IMPACT REPORT

FOR THE

2010

CLEAN AIR PLAN

STATE CLEARINGHOUSE No. 2010071014

January 2011

Santa Barbara County Air Pollution Control District

260 San Antonio Road, Suite A  
Santa Barbara, California 93110

(805) 961-8800

***Attachment 7***

***2010 Clean Air Plan Environmental Impact Report***

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