

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

Technical Support Document for  
EPA's Notice of Proposed Rulemaking for  
the  
California State Implementation Plan

Eastern Kern Air Pollution Control District  
Rule 432, Polyester Resin Operations

May 4, 2015

**Rule Identification**

Agency: Eastern Kern Air Pollution Control District (EKAPCD or District)

SIP Approved Rule: none

Subject of this Technical Support Document (TSD): Rule 432 – Polyester Resin Operations, Adopted March 13, 2014, Submitted July 25, 2014.

**Rule Summary --** The purpose of this rule is to reduce volatile organic compounds (VOC) emissions from polyester resin operations. The provisions of this rule apply to commercial polyester resin operations, industrial polyester resin operations, and organic solvents (use {including cleaning}, storage, waste, and disposal {off-site transfer}) associated with polyester resin operations.

The rule requirements include the following:

- Comply with specific limits (Table 1) on VOC content for open molding resin and gel coats.

**Table 1 - VOC Content Limits for Open Molding Resin And Gel Coat**

Compliant Materials Weighted Average Monomer	
Material	Weight Percent Limit
a. General Purpose Resin	
<input type="checkbox"/> Marble Resin	10% or 32%, as supplied, with no fillers
<input type="checkbox"/> Solid Surface	17%
<input type="checkbox"/> Tub/Shower Resin	24% or 35%, as supplied, with no fillers
<input type="checkbox"/> Lamination Resin	31% or 35%, as supplied, with no fillers
b. Tooling Resin	
<input type="checkbox"/> Atomized (spray)	30%
<input type="checkbox"/> Non-atomized	29%
c. Specialty Resin	
<input type="checkbox"/> Fire Retardant Resin	38%
<input type="checkbox"/> High Strength Materials	40%
<input type="checkbox"/> Corrosion Resistant Resin	48%
d. All Other Resins	35%
e. Tooling Gel Coat	40%
f. Pigmented Gel Coat	
<input type="checkbox"/> White and Off White	30%
<input type="checkbox"/> Non-White	37%
<input type="checkbox"/> Primer	28%
g. Clear Gel Coat	

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	<input type="checkbox"/> Marble Resin	40%
	<input type="checkbox"/> Other Resin	44%
h.	Specialty Gel Coat	48%

- Non-monomer VOC content of each resin and gel coat shall not contain more than 5 percent by weight of the resin or gel coat. Resins must contain a vapor suppressant, so that weight loss from VOC emissions does not exceed 50 grams per square meter of exposed surface during polymerization.
- Use a closed mold system or install and operate a VOC emission control system with an overall capture and control efficiency of at least 90 percent by weight.
- Only use spray equipment that is airless, air assisted airless, high-volume low-pressure or electrostatic; or install and maintain a VOC emission control system with an overall capture and control efficiency of at least 90 percent by weight around the coating operations.
- Store or dispose of uncured polyester resin, solvents, waste solvent cleaning materials, coatings, adhesives, catalysts and thinners in self-closing non-absorbent and non-leaking containers.
- Comply with specific limits (Table 2) for VOC Content for Organic Solvents.

**Table 2 -- VOC Content Limits for Organic Solvents**

Type of Solvent Cleaning Operation		VOC Content Limit Grams of VOC/liter of material (lb/gal)
a.	Product Cleaning During Manufacturing Process or Surface Preparation for Coating Application	25 (0.21)
b.	Repair and Maintenance Cleaning	25 (0.21)
c.	Cleaning of Polyester Resin Application Equipment	25 (0.21)

The rule exempts facilities using less than 20 gallons per day of polyester resin from rule requirements, with the exception of recordkeeping requirements needed to document exempt status. The rule exempts solvent cleaning provisions for solar cells, laser hardware, scientific instruments, or high precision optics. Small jobs may have 10% higher VOC content than Table 1 limits only if applied by certain type of hand-held atomized spray gun and total material used does not exceed two gallons a day.

The rule includes EPA-approved test methods and recordkeeping requirements, including daily records of the type and quantity of all resins, gel coats, fillers, catalysts and cleaning materials used, and VOC content of all materials used or stored. Records must be kept on-site for five years.

**EPA Evaluation Criteria** – The following criteria were used to help evaluate the control requirements in Rule 432:

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1. Enforceability – Section 110(a)(2)(A) of the Clean Air Act (CAA) requires that regulations submitted to EPA for incorporation into the SIP must be clear and legally enforceable. The Bluebook (*Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations, EPA, May 25, 1988*) and the Little Bluebook (*Guidance Document for Correcting Common VOC & Other Rule Deficiencies, EPA Region 9, August 21, 2001*) were used to help evaluate compliance with the CAA §110(a)(2)(A) requirement for enforceability.
2. Stringency – CAA section 172(c)(1) specifies that SIPs for nonattainment areas must include RACT for sources of emissions. Section 182(b)(2) specifically provides that for nonattainment areas classified as moderate or worse, states must revise their SIP to include RACT for sources of VOC emissions covered by a Control Technologies Guideline (CTG) document issued after November 15, 1990 and prior to the area’s date of attainment.
3. Non-interference – CAA §110(l) prohibits EPA from approving any SIP revision that would interfere with any applicable requirement concerning attainment and reasonable further progress (RFP) or any other applicable requirement of the CAA.

### **EPA Evaluation**

1. Enforceability – Rule 432 includes clear requirements, test methods and recordkeeping requirements similar to other SIP-approved rules in nonattainment areas, such as San Joaquin Valley Unified Air Pollution Control District Rule 4684 (77 FR 5709), and adequately fulfills the CAA enforceability requirements.
2. Stringency – Eastern Kern County is nonattainment for the federal ozone standard, therefore RACT requirements apply. EPA-453/R-08-004, *Control Technique Guidelines for Fiberglass Boat Manufacturing Material*, describes recommended controls for the fiberglass boat manufacturing industry, which uses polyester resin. However, the Rule 423 staff report states that the District does not have any boat manufacturing operations within its jurisdiction. There are no other CTGs for non-fiberglass boat manufacturing that would apply to this category.

EKAPCD Rule 432 has similar requirements to San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4684 Polyester Resin Operations, which was approved into the SIP on February 6, 2012 (77 FR 5709) and South Coast Air Quality Management District (SCAQMD) Rule 1162 Polyester Resin Operations, which was approved into the SIP on July 26, 2011 (76 FR 44493).

3. Non-interference – This new rule strengthens the SIP so this action will not interfere with the District’s ongoing efforts to ensure maintenance of the NAAQS.

**Deficiencies** – None identified.

**EPA Action** -- The submitted Rule 432 will help strengthen the SIP. The rule fulfills the relevant CAA section 110 requirements and part D requirements. EPA staff recommends approval of Rule 432 pursuant to CAA section 110(k)(3) and section 301(a).

**Recommendations** – The following recommendations are not currently the basis for rule disapproval, but we encourage EKAPCD to consider them the next time the rule is amended:

1. SCAQMD Rule 1162 does not exempt facilities that use less than 20 gallons of polyester resin materials per month. Please consider whether this exemption in Rule 432, section III is necessary.

**References**

1. “Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations,”
2. (a.k.a., Bluebook) EPA OAQPS, May 25, 1988.
3. “Guidance Document for Correcting Common VOC & Other Rule Deficiencies,” (a.k.a., Little Bluebook), EPA Region 9, August 21, 2001.
4. SJVAPCD Rule 4684, Polyester Resin Operations, amended August, 18, 2011, approved February 6, 2012 (77 FR 5709).
5. SCAQMD Rule 1162 Polyester Resin Operations, Amended July 8 2005, approved July 26, 2011 (76 FR 44493).
6. Rule 432, Polyester Resin Operations, EKAPCD Staff Report, March 13, 2014.