

**SACRAMENTO METROPOLITAN  
AIR QUALITY MANAGEMENT DISTRICT**

**STATEMENT OF REASONS**

**Rule 442, Architectural Coatings**

**Proposed Amendments  
March 22, 2024**

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## **RULE JUSTIFICATION**

### **Health Effects**

Ground-level ozone or “smog” is one of the air pollutants regulated by both federal and state laws. It is a colorless gas formed in the presence of sunlight when precursor pollutants (nitrogen oxides and volatile organic compounds) mix. The high ozone season is from May through October for the Sacramento region.

Ground-level ozone is a strong irritant that adversely affects human health. Breathing ozone can reduce lung function and worsen respiratory problems. Ozone exposure has been associated with increased susceptibility to respiratory infections, cardiac-related effects, medical visits, school absenteeism, and can contribute to premature death, especially in people with heart and lung disease. Ozone can also cause damage to crops and natural vegetation by acting as a chemical oxidizing agent.

Ground level ozone is formed by photochemical reactions involving two types of precursor pollutants: volatile organic compounds (VOCs) and nitrogen oxides (NOX). VOCs and NOx are emitted by many types of sources, including on-road and off-road combustion engine vehicles, power plants, industrial facilities, gasoline stations, organic solvents (including those found in architectural coatings), and consumer products.

### **Legal Mandates**

The District is within the Sacramento Federal Nonattainment Area (SFNA), which is classified as “severe” nonattainment for the 2008 National Ambient Air Quality Standard (NAAQS) for ozone (NAAQS)<sup>1</sup>. For the 2015 ozone NAAQS, the SFNA area is currently classified as “serious” nonattainment<sup>2</sup>; however, the SFNA air districts have recently requested a voluntarily bump up to a severe nonattainment classification because additional time is needed to meet the standard. The U.S. Environmental Protection Agency (EPA) is expected to take action to reclassify the SFNA in a final rule. Title 40 of the Code of Federal Regulations, Subpart X, requires nonattainment areas to comply with the requirements for a “severe” ozone nonattainment area that are contained in Clean Air Act (CAA) Sections 182(c) and (d), which require that a plan be submitted to EPA that demonstrates attainment of the standard by the applicable attainment date and includes all control measures necessary for attainment and reasonable further progress (RFP).

In 2017, the air districts of the SFNA adopted the Sacramento Regional 2008 NAAQS 8-hour Ozone Attainment and Reasonable Further Progress Plan (2008 Ozone NAAQS Plan)<sup>3</sup> to attain

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<sup>1</sup> “Implementation of the 2008 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classifications Approach, Attainment Deadlines and Revocation of the 1997 Ozone Standards for Transportation Conformity Purposes, Final Rule.” 77 Federal Register (FR) 30088, May 21, 2012.

<sup>2</sup> “Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards, Final Rule.” 83 FR 25776, June 4, 2018.

<sup>3</sup> *Sacramento Regional 2008 NAAQS 8-hour Ozone Attainment and Reasonable Further Progress Plan*. El Dorado County Air Quality Management District (AQMD), Feather River AQMD, Placer County Air Pollution Control District (APCD), SMAQMD, Yolo Solano AQMD, July 24, 2017.

the 2008 ozone NAAQS by 2024. The RFP milestone years are 2017, 2020, and 2023. The plan to attain the 2015 ozone NAAQS by 2032 was adopted in 2023<sup>4</sup>. The RFP milestone years are 2023, 2026, and 2029.

CAA Sections 172(c)(9) and 182(c)(9) require ozone NAAQS attainment plans to include “contingency measures,” which are to be triggered automatically if EPA promulgates a final rule finding that an ozone nonattainment area fails to meet RFP in the milestone years or attain the ozone standard by the attainment year. Contingency measures are intended to provide additional emission reductions in these circumstances to help achieve the standards. For many years, states relied on excess emission reductions from rules that had already been adopted to satisfy the contingency measure requirements. However, recent court decisions<sup>5,6,7</sup> have held that this approach doesn’t meet CAA requirements because contingency measures must be unadopted measures that, when triggered, take effect without further action by the district, state, or EPA.

In June 2023, EPA partially disapproved<sup>8</sup> the 2008 Ozone NAAQS Plan because it did not include contingency measures consistent with CAA Sections 172(c)(9) and 182(c)(9). To obtain approval, the districts of the SFNA must submit contingency measures that, in aggregate, achieve sufficient emission reductions. The 2015 Ozone NAAQS Plan specifically included a commitment for the District to adopt a contingency measure that would reduce VOC emissions from architectural coatings by 0.123 tons per day in 2032.

Staff is proposing to amend Rule 442 such that, if the contingency condition is triggered for either the 2008 or 2015 ozone NAAQS, the VOC content limits for some architectural coating categories will automatically be reduced to more stringent levels. The levels would be set to follow the California Air Resources Board’s (CARB’s) 2019 Suggested Control Measure (SCM) for Architectural Coatings<sup>9</sup>. The adoption of the proposed amendments to Rule 442 will meet CAA contingency measure requirements. If approved by EPA, the amendments to Rule 442 will be subject to federal enforcement and citizen’s civil legal actions under CAA Sections 113 and 304.

### **Rule 442 Background**

For 2024, the summer season VOC emissions from architectural coatings in Sacramento County are estimated to be 3.581 tons per summer day, based on the emission inventory<sup>10</sup> developed for the 2008 Ozone NAAQS Plan. The summer season VOC emissions for 2032 are projected to be

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<sup>4</sup> *Sacramento Regional 2015 NAAQS 8-hour Ozone Attainment and Reasonable Further Progress Plan*. El Dorado County AQMD, Feather River AQMD, Placer County APCD), SMAQMD, Yolo Solano AQMD, October 17, 2023.

<sup>5</sup> *Bahr v. EPA*, 836 F.3d 1218 (9th Cir. 2016).

<sup>6</sup> *Association of Irrigated Residents v. EPA*, 10 F.4th 937 (9th Cir. 2021).

<sup>7</sup> *Sierra Club, et al. v. EPA*, 985 F.3d 1055 (D.C. Cir. 2021).

<sup>8</sup> 88 FR 39179, June 15, 2013.

<sup>9</sup> “Suggested Control Measure for Architectural Coatings.” CARB, May 23, 2019. <https://ww2.arb.ca.gov/our-work/programs/coatings/architectural-coatings/suggested-control-measure>.

<sup>10</sup> “CEPAM: California 2016 Ozone SIP Baseline Emission Projections – Version 1.05, Sacramento Nonattainment Area Tool.” CARB. December 8, 2016 (see Appendix C).

1.576 tons per summer day, based on the emission inventory<sup>11</sup> developed for the 2015 Ozone NAAQS Plan.

Rule 442, Architectural Coatings, limits emissions of VOC from the application of coatings to stationary structures and their accessories. Architectural coatings include interior and exterior house coatings, stains, industrial maintenance coatings, concrete/masonry sealers, traffic marking coatings, and many other coating products. Architectural coatings are typically applied at industrial, commercial, and residential facilities by painting professionals and residential consumers. The rule establishes maximum VOC content limits for specific categories of architectural coatings and prohibits the application of coatings that exceed the VOC limits. The rule prohibits manufacturers and suppliers from selling architectural coatings within the Sacramento Air Quality Management District (SMAQMD or District) that do not comply with the rule. This rule was first adopted on December 6, 1978, and last amended on September 24, 2015.

### **CARB's 2019 SCM for Architectural Coatings**

Control of VOC emissions from architectural coatings in California is primarily the responsibility of the local air districts. CARB is responsible for serving as an oversight agency and providing assistance to the districts, such as developing the SCM for Architectural Coatings. The SCM is a model rule that CARB encourages local districts to adopt into a formal regulation. The purpose of the SCM is to promote uniformity among district rules, improve enforceability, and achieve additional reductions of VOC emissions from the application of architectural coatings. SMAQMD and 14 other California districts have architectural coating rules based on the 2007 Architectural Coatings SCM.

On May 23, 2019, CARB updated its SCM for Architectural Coatings. The 2019 SCM has lower VOC limits for several categories of architectural coatings compared to the 2007 SCM, as well as new VOC limits for colorants and will achieve additional emission reductions. CARB developed the VOC limits based on technical information from the statewide 2013 architectural coating survey and in consultation with air districts and industry stakeholders. In order to comply with the coating limits, CARB anticipated that manufacturers would reformulate coatings using water or exempt compounds. CARB also found that many manufacturers had large volumes of products that already meet the VOC limits. Since the time the 2019 SCM was adopted by CARB, the architectural coatings rules of three districts – San Diego County Air Pollution Control District (effective 1/1/2022), San Joaquin Valley Unified Air Pollution Control District (effective 1/1/2022), and Ventura County Air Pollution Control District (effective 7/1/21) – have been amended to incorporate the 2019 SCM requirements.

### **Differences between the 2019 SCM and 2007 SCM**

The 2019 SCM updates the 2007 SCM to reflect current coating technology. The 2019 SCM lowers the VOC limits for architectural coatings, improves definitions for many categories, establishes new VOC content limits for colorants, and removes the coating categories for non-flats, stains, floor, and some other specialty coatings. The new and changed VOC content limits in the 2019 SCM, compared to the 2007 SCM, are shown in Table 1.

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<sup>11</sup> "CEPAM: California 2019 Ozone SIP Baseline Emission Projections – Version 1.04, Sacramento Nonattainment Area Tool." CARB. April 7, 2022 (see Appendix C).

**Table 1: New/Changed VOC Content Limits**

Coating Category	VOC Content Limits (g/L)	
	2007 SCM	2019 SCM
Nonflat Coatings	100	50
Nonflat – High Gloss Coatings	150	Nonflat Coatings (100)
<b>Specialty Coatings:</b>		
Aluminum Roof Coatings	400	100
Building Envelope Coatings <sup>1</sup>		50
Dry Fog Coatings	150	50
Fire Resistive Coatings	350	150
Floor Coatings	100	50
Form-Release Compounds	250	100
Stains Exterior/Dual Interior Only	Stains (250) Stains (250)	100 250
Tile and Stone Sealers <sup>1</sup>		100
Waterproofing Membranes	250	100

<sup>1</sup> Building Envelope Coatings and Tile and Stone Sealers are new categories in the 2019 SCM.

CARB staff concluded that the 2019 SCM VOC limits are technologically and commercially feasible, as illustrated by the high levels of product availability already at or below the proposed VOC limits. Consumers are purchasing and using these products without significant concerns.

**Differences Between the SCM and SCAQMD Rule 1113<sup>12</sup>**

In the development of the 2019 SCM, CARB staff considered the feasibility of proposing SCAQMD Rule 1113 VOC limits that were effective January 1, 2019. Most of the VOC limits from SCAQMD Rule 1113 were included in the SCM. However, some of the coating categories required a higher VOC limit than the corresponding VOC limit in SCAQMD Rule 1113. Industrial Maintenance Coatings, Metallic Pigmented Coatings, Rust Preventative Coatings, Zinc-Rich Primers, and Concrete Curing Compounds have a higher limit in the SCM due to the following reasons: 1) the SCM requires feasibility in a variety of climates, 2) the SCM does not contain a VOC exemption for tertiary butyl acetate (TBAC) for Industrial Maintenance coatings, due to concerns about its

<sup>12</sup> California Air Resources Board. *Staff Report for Proposed Updates to the Suggested Control Measure for Architectural Coatings. pp 36-38.* April 2019. [https://ww2.arb.ca.gov/sites/default/files/2020-06/Staff\\_Report\\_4-19-2019\\_complete\\_remediated.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-06/Staff_Report_4-19-2019_complete_remediated.pdf).

potential carcinogenicity, and 3) the SCM does not contain an exemption for stains and lacquers when they are used at high elevations.

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## SUMMARY OF RULE 442 AMENDMENTS

Staff is proposing to amend Rule 442 to incorporate contingency measure provisions that, if triggered, would automatically establish more stringent requirements, consistent with the 2019 SCM, that further reduce emissions of VOC from architectural coating operations. The “Contingency Measure Trigger Date” is the effective date of a final EPA rule finding that the SFNA fails to meet RFP in a milestone year or attain the standard by the attainment year of either the 2008 or 2015 ozone NAAQS. The contingency measure requirements that would take effect are consistent with the 2019 Architectural Coatings SCM.

The proposed contingency provisions consist of lowering VOC limits for several existing coating categories, setting VOC limits for two new coating categories, and establishing VOC limits for colorants. In addition, the amendments include three new coating category definitions, update existing definitions, and update test methods to reflect the latest versions. Although some rule revisions are effective on the date of adoption, the proposed amendments will have no effect on compliance with the current rule unless the contingency measure provisions are triggered.

The following is a summary of proposed changes that would take effect on the Contingency Measure Trigger Date.

- Adds, amends, or eliminates coating categories, consistent with the SCM, including:
  - Establishes VOC limits for colorants added to coatings at the point of sale for:
    - Architectural Coatings, excluding Industrial Maintenance Coatings
    - Solvent-Based Industrial Maintenance Coatings
    - Waterborne Industrial Maintenance Coatings
    - Wood Coatings(note: Colorants added at the factory or at the worksite are exempt from the colorant VOC limits. Containers of colorants sold for use in the field or on a job site are also not subject to VOC limits.)
  - Reduces the VOC limits for nine coating categories.
  - Eliminates the Nonflat – High Gloss coating category. Coatings that are now covered by this category would then be considered Nonflat coatings.
- Adds administrative requirements for colorants:
  - Date code
  - VOC content
- Adds container labeling requirements for:
  - Building Envelope Coatings
  - Tile and Stone Sealers
- Allows one year to sell products manufactured prior to the Contingency Measure Trigger Date

Although these provisions will take effect immediately on the Contingency Measure Trigger Date, this is not expected to be burdensome because the District will be aware of the conditions leading to an EPA contingency measure finding well ahead of EPA’s publication of its draft finding. Prior to issuing a final determination, EPA would issue a proposed rulemaking with a public comment

period. There will be an additional period between publication of a proposed finding and a final finding. In the event the District anticipates that the contingency measure provisions may be triggered by a forthcoming EPA determination, the District will commence outreach and coordination with the affected industry including manufacturers, retailers, and wholesalers with notices on the District's web site and compliance advisories sent by email and U.S. mail. The District will be able to keep manufacturers, distributors and sellers informed as the process moves along, so there will be sufficient time for them to prepare for the new requirements.

In addition to the contingency provisions, the amendments will include changes that are consistent with the 2019 SCM and would take effect immediately upon adoption, because they would not affect compliance with the current rule.

- Adds the term “markets,” consistent with the SCM, to the applicability section to clarify that the rule also applies to mail order coatings and e-commerce companies (e.g., Amazon, E-Bay) who do not sell coatings themselves but market them for sale,
- Adds or amends coating categories, consistent with the SCM, including:
  - Adds two coating categories that are currently regulated in different categories. New VOC limits for these categories will not take effect until the Contingency Measure Trigger Date.
    - Building Envelope Coatings
    - Tile and Stone SealersThese coatings are currently classified based on the specific, current specialty coating definitions they meet. If they don't meet any current specialty coating definitions, they are classified as Flat, Nonflat or Nonflat - High Gloss based on their gloss level.
  - Separates the Stains coating category into Exterior/Dual and Interior Only stains.
  - Amends definitions of coating categories, consistent with SCM, including:
    - Reactive Penetrating Sealer. [According to CARB's staff report for the 2019 SCM, the California Department of Transportation (Caltrans 2013) conducted a series of tests<sup>13</sup> on potential Reactive Penetrating Sealers, and none could meet one of the criteria listed in the 2007 SCM definition, i.e., that the coating category must not reduce the water vapor transmission rate by more than two percent after application on a concrete or masonry substrate. Therefore, CARB revised that criterion such that a Reactive Penetrating Sealer “must provide a breathable waterproof barrier for concrete or masonry surfaces that does not prevent or substantially retard water vapor transmission.”]
    - Traffic Marking Coating, to clarify the specified procedure for analyzing VOC content of Methacrylate Traffic Marking Coatings used as Traffic Marking Coatings.
- Adds or amends test methods to more updated/current versions, consistent with the SCM.
  - VOC Content determination
    - The SCM designates acceptable methods for determining compliance with requirements. EPA Method 24 is the official method for verifying the VOC content of architectural coatings.

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<sup>13</sup> California Department of Transportation, Report on Reactive Penetrating Sealers for Concrete, May 28, 2013. (Caltrans 2013).



- The SCM allows for the use of alternative test methods, but manufacturers must first obtain written approval from the District, CARB, and EPA.
  - New test methods to verify compliance with the proposed changes.

**Proposed Changes to VOC Content Limits On and After Contingency Measure Trigger Date**

Table 2 shows the current VOC content limits together with VOC content limits that would take effect on the Contingency Measure Trigger Date. Coating categories listed in boldface indicate that the proposed limits are new or more stringent than the current version of Rule 442

If the coating does not meet any of the definitions for the specialty coating categories listed in Table 2, that coating will be classified as Flat or Nonflat based on its gloss level, and the corresponding VOC content limit will apply.

**Table 2: Proposed VOC Content Limits for Coatings**

Coating Category <sup>2</sup>	VOC Content Limits (g/L) <sup>1</sup>	
	Current Rule 442	Effective on and after Contingency Measure Trigger Date
Flat Coatings	50	
<b>Nonflat Coatings</b>	<b>100</b>	<b>50</b>
Nonflat – High Gloss Coatings	150	(Eliminated) <sup>3</sup>
Specialty Coatings:		
<b>Aluminum Roof Coatings</b>	<b>400</b>	<b>100</b>
Basement Specialty Coatings	400	
Bituminous Roof Coatings	50	
Bituminous Roof Primers	350	
Bond Breakers	350	
<b>Building Envelope Coatings<sup>4</sup></b>		<b>50</b>
Concrete Curing Compounds	350	
Concrete/Masonry Sealers	100	
Driveway Sealers	50	
<b>Dry Fog Coatings</b>	<b>150</b>	<b>50</b>
Faux Finishing Coatings	350	
<b>Fire Resistive Coatings</b>	<b>350</b>	<b>150</b>
<b>Floor Coatings</b>	<b>100</b>	<b>50</b>
<b>Form-Release Compounds</b>	<b>250</b>	<b>100</b>
Graphic Arts Coatings (Sign Paints)	500	
High Temperature Coatings	420	
Industrial Maintenance Coatings	250	
Low Solids Coatings <sup>1</sup>	120	
Magnesite Cement Coatings	450	
Mastic Texture Coatings	100	
Metallic Pigmented Coatings	500	
Multi-Color Coatings	250	
Pre-Treatment Wash Primers	420	
Primers, Sealers, and Undercoaters	100	

Coating Category <sup>2</sup>	VOC Content Limits (g/L) <sup>1</sup>	
	Current Rule 442	Effective on and after Contingency Measure Trigger Date
Reactive Penetrating Sealers	350	
Recycled Coatings	250	
Roof Coatings	50	
Rust Preventative Coatings	250	
Shellacs:		
Clear	730	
Opaque	550	
Specialty Primers, Sealers and Undercoaters	100	
<b>Stains</b>		
<b>Exterior/Dual</b>	<b>Stains (250)</b>	<b>100</b>
<b>Interior Only</b>	<b>Stains (250)</b>	<b>250</b>
Stone Consolidants	450	
Swimming Pool Coatings	340	
<b>Tile and Stone Sealers<sup>4</sup></b>		<b>100</b>
Traffic Marking Coatings	100	
Tub and Tile Refinish Coatings	420	
<b>Waterproofing Membranes</b>	<b>250</b>	<b>100</b>
Wood Coatings	275	
Wood Preservatives	350	
Zinc-Rich Primers	340	
<sup>1</sup> Limits are expressed as VOC Regulatory, except for Low Solids Coatings. Limits for Low Solids Coatings are expressed as VOC Actual. <sup>2</sup> If the coating does not meet any of the definitions for the specialty coating categories listed in Table 2, that coating will be classified as Flat, Nonflat or Nonflat - High Gloss based on its gloss level, and the corresponding VOC content limit will apply. <sup>3</sup> This definition will sunset on the Contingency Measure Trigger Date, and Nonflat – High Gloss Coatings will coating meet the definition of Nonflat Coatings. <sup>4</sup> Prior to the Contingency Measure Trigger Date, a specific Building Envelope Coating or Tile and Stone Sealer will be classified based on the current specialty coating definition it meets, or, if it doesn't meet any of the current specialty coating definitions, it will be classified as Flat, Nonflat or Nonflat - High Gloss based on its gloss level, and the corresponding VOC content limit will apply.		

Table 3 shows new VOC content limits colorants, consistent with the SCM, that would take effect on the Contingency Measure Trigger Date.

**Table 3: Proposed VOC Content Limits for Colorants**

Colorant Added To	VOC Content Limits (g/L) <sup>1</sup>	
	Current Rule 442	Effective on and after Contingency Measure Trigger Date
Architectural Coatings, excluding Industrial Maintenance Coatings	No Limit	50
Solvent-Based Industrial Maintenance Coatings	No Limit	600

Colorant Added To	VOC Content Limits (g/L) <sup>1</sup>	
	Current Rule 442	Effective on and after Contingency Measure Trigger Date
Waterborne Industrial Maintenance Coatings	No Limit	50
Wood Coatings	No Limit	<u>600</u>

<sup>1</sup> Limits are expressed as VOC Regulatory.

For simplicity, if the contingency measure provisions are triggered, the proposed rule will be republished and posted onto the District web site after the Contingency Measure Trigger Date without the definitions, coating categories, recordkeeping requirements, and any other requirements that are no longer applicable after the Contingency Measure Trigger Date. In addition, the version of Rule 442 that was adopted on September 24, 2015, will be posted and maintained on the District web site indefinitely. This will facilitate compliance with the sell-through provision.

**Sell-Through Period**

Coatings that are manufactured prior to the Contingency Measure Trigger Date and meet the rule in effect prior to that date may be sold for up to one year after the Contingency Measure Trigger Date. Manufacturers and retailers will have ample notice that the contingency measure will be triggered before a final EPA rule has been published. Coatings purchased during the sell-through period may be applied at any time, before or after the sell-through period has ended.

**Early Compliance Provision**

Staff is proposing an early compliance provision. The purpose of this provision is to allow coatings that will comply with the contingency provisions of the rule to be sold and used even before the Contingency Measure Trigger Date.

A detailed list of changes is included in Table A-1 in Appendix A.

**EMISSIONS IMPACT**

Staff used the emissions inventories that were developed for the 2008 and 2015 Ozone NAAQS Plans to estimate VOC emission reductions from the proposed contingency measure. In the staff report for the 2019 SCM<sup>14</sup>, CARB estimated that the SCM would reduce VOC emissions by 1.46 tons per day in aggregate from all air districts with rules based on the 2007 SCM, out of a total emissions inventory of 18.64 tons per day for these districts. This is an emission reduction of 7.8%. Because Rule 442 is based on the 2007 SCM, Staff calculated emission reductions by multiplying the District’s emissions by 7.8%. Table 4 shows the VOC emissions and reductions for the attainment years for the 2008 ozone NAAQS (2024) and the 2015 ozone NAAQS (2032).

<sup>14</sup> California Air Resources Board. Staff Report for Proposed Amendments to the Suggested Control Measure for Architectural Coatings. April 2019 (CARB 2019).

The emission inventories shown do not include emissions from thinning solvents, cleanup solvents, or additives; the proposed amendments to the rule do not change VOC limits for these materials. The 2024 VOC emission reductions are 0.279 tons per day and the 2032 emission reductions are 0.123 tons per day, which will contribute to needed reductions from contingency measures as well as satisfy the District’s specific commitment for an architectural coating contingency measure in the 2015 NAAQS Plan.

**Table 4: VOC Emissions Inventory and Emission Reductions for Architectural Coatings**

Category	VOC Emissions Inventory and Emission Reductions (tons per summer day)			
	2024		2032	
	Emissions <sup>15</sup>	Reductions	Emissions <sup>16</sup>	Reductions
Architectural Coatings (minus additives and thinning and cleanup solvents)	3.581	0.279	1.576	0.123

Note: The emission reductions are calculated by multiplying the emissions by 7.8%.

According to CARB, 58% of the emissions reductions from the 2019 SCM are attributable to just two coating categories: External/Dual Stains and Nonflat Coatings.

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**ECONOMIC IMPACT – COST AND COST-EFFECTIVENESS**

California Health and Safety Code (HSC) §40703 requires the District to consider and make public its findings relating to the cost effectiveness of implementing an emission control measure.

Rule 442 applies to those who supply, sell, market, offer for sale, manufacture, blend, repackage, apply or solicit the application of architectural coatings within the District. Adoption of the proposed amendments may result in increased costs for manufacturers, suppliers, sellers and/or users of architectural coatings.

CARB expects that manufacturers will comply with the revised VOC limits by reformulating their products by replacing some of the VOC solvent with water or exempt compounds, or by increasing the amount of resin and pigment solids. However, many manufacturers already have large volumes of complying products, and no reformulation would be required to meet the proposed limits. CARB estimated that coating manufactures will incur both one-time and recurring costs,

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<sup>15</sup> From "CEPAM: California 2016 Ozone SIP Baseline Emission Projections – Version 1.05, Sacramento Nonattainment Area Tool." CARB. December 8, 2016 (see Appendix C).

<sup>16</sup> From "CEPAM: California 2019 Ozone SIP Baseline Emission Projections – Version 1.04, Sacramento Nonattainment Area Tool." CARB. April 7, 2022 (see Appendix C).

with a total annualized cost of three million dollars per year in 2019 dollars statewide (outside of SCAQMD).

Staff expects that most or all of the cost of reformation has already been incurred. VOC content limits as low as those in the 2019 SCM, and for some coatings even lower, have been in effect in the South Coast Air Quality Management District since 2014. Since the time the 2019 SCM was adopted by CARB, the architectural coatings rules of three districts have been amended to incorporate the SCM requirements: San Diego County Air Pollution Control District (Rule 67.0.1, February 10, 2021), San Joaquin Valley Unified Air Pollution Control District (Rule 4601, April 16, 2020), and Ventura County Air Pollution Control District (Rule 74.2, 11/10/2020).

CARB staff estimated the overall cost-effectiveness of the SCM to be \$1.85 per pound of VOC reduced, in 2019 dollars. In comparison, the cost-effectiveness of the 2007 architectural coatings SCM had an overall cost effectiveness of \$1.12 per pound of VOC reduced (\$1.38 per pound in 2019 dollars).

In year 2019 dollars, previously adopted District rules have cost effectiveness values for VOC reductions ranging from \$1.31 per pound of VOC reduced (for the 8/21/1990 adoption of Rule 452, Can Coating) to as much as \$23.21 per pound of VOC reduced (for the 12/17/1991 adoption of Rule 449, Transfer of Gasoline into Vehicle Fuel Tanks).

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## **ECONOMIC IMPACT – INCREMENTAL COST-EFFECTIVENESS**

Pursuant to California HSC §40920.6(a)(3), the District is required to perform incremental cost effectiveness analysis prior to adopting requirements for Best Available Retrofit Control Technology (BARCT) or a “feasible measure” requirement pursuant to California HSC §40914. The District is required to identify one or more potential control options that achieve the emission reduction objective for the regulation. The potential control options identified are 1) adopting more stringent VOC limits for additional coating categories that are in effect in SCAQMD, 2) requiring the use of VOC capture and control systems, or 3) restricting the small container exemption in addition to the proposed adoption of the 2019 SCM VOC limits. Each potential control option is discussed below.

### **Adopting Additional SCAQMD VOC Limits**

As stated previously, during the development of the SCM, CARB considered the feasibility of the VOC limits that have been in effect in SCAQMD Rule 1113 since January 1, 2019. For most categories, the VOC limits in the 2019 SCM are consistent with the SCAQMD rule. For a few other categories, CARB determined that SCAQMD Rule 1113 VOC limits would not in general be feasible throughout all areas of the state. The SCAQMD has a relatively mild, warm climate, which provides advantages for developing low-VOC coatings with acceptable performance and durability. However, in Northern California and other parts of the state, the climate can have far greater extremes of temperature and humidity. For these areas, coatings must withstand harsher climates and it can be more difficult to develop low-VOC products. The most significant coating categories for which the lower SCAQMD Rule 1113 VOC limits were not included in the SCM are Industrial Maintenance Coatings, Metallic Pigmented Coatings, Rust Preventative Coatings, Zinc-Rich Primers, and Concrete Curing Compounds.

In addition, SCAQMD Rule 1113 contains a limited VOC exemption for tertiary-butyl acetate (TBAC) specifically for use in Industrial Maintenance Coatings, meaning that manufacturers do not have to include TBAC when calculating the VOC content of Industrial Maintenance Coatings. CARB staff did not include a similar exemption for TBAC (nor has the District in its list of exempt compounds) due to potential toxicity health concerns identified by the Office of Environmental Health Hazard Assessment.

For the reasons noted above, Staff has concluded that implementing the lower limits for additional coating categories in SCAQMD Rule 1113, beyond those included in the SCM, is not feasible in the District.

### **VOC Capture and Control Systems**

Installation of VOC capture and control systems is not feasible. Users of architectural coatings move from one site to another. It would be infeasible to install capture and control systems at each location for the short duration of the coating application. In addition, many coatings are applied to exterior surfaces where VOC capture would be virtually impossible.

### **Restricting the Small Container Exemption for Certain Coating Categories**

Coatings sold in containers with a volume of one liter or less have been exempt from VOC limits in all previous architectural coating SCMs and, until recently, in all air districts in California. In 2016, SCAQMD amended Rule 1113 to phase out the small container exemption for 23 coating categories over a four-year period ending on January 1, 2020. In addition, San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) added a contingency measure to Rule 4601 on April 16, 2020, that, if triggered would eliminate the small container exemption for the following 13 coating categories:

- Bituminous Roof Coatings
- Flat Coatings in containers larger than eight fluid ounces
- Magnesite Cement Coatings
- Multi-Color Coatings
- Nonflat Coatings in containers larger than eight fluid ounces
- Pre-Treatment Wash Primers
- Reactive Penetrating Sealers
- Shellacs (Clear and Opaque)
- Stone Consolidants
- Swimming Pool Coatings
- Tub and Tile Refinishing Coatings
- Wood Coatings, including Lacquers, Varnishes, and Sanding Sealers
- Wood Preservatives

CARB staff assisted District staff in analyzing the emissions impact of eliminating the small container exemption for the same categories listed in SJVAPCD's contingency measure<sup>17</sup>. CARB estimated that the additional emissions reduction achieved by eliminating the small container exemption would be 4.3% of the emissions remaining after adopting the SCM limits, or 0.14 tons per summer day in 2024 and 0.062 tons per summer day for 2032.

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<sup>17</sup> Email from Glenn Villa, CARB, to Kevin Williams, SMAQMD, June 1, 2021.

The cost effectiveness of these additional emissions reductions is uncertain. The staff report for the 2016 amendments to SCAQMD Rule 1113, which included limitations on the small container exemption, estimated the cost effectiveness of all rule revisions to be \$0.58 per pound of VOC reduced; however, that figure also included the cost and emissions reductions due to lowering the VOC limits for some coating categories. When SJVUAPCD amended Rule 4601 in 2020, the staff report stated that the compliance costs for manufacturers to reformulate coatings currently sold under the small container exemption will have already been incurred by the time the contingency measure would be triggered.

Staff has not included restrictions on the small container in the proposed revisions to Rule 442, for two main reasons. First, Staff considers the existing exemption to be effective in addressing niche applications and touch-up. Second, because the districts surrounding the SMAQMD have not restricted the small container exemption in their architectural coating rules, these products will continue to be available for purchase in nearby areas, reducing the effectiveness of this alternative.

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## **ECONOMIC IMPACT – SOCIOECONOMIC**

California HSC §40728.5 requires a district to perform an assessment of the socioeconomic impacts before adopting, amending, or repealing a rule that will significantly affect air quality or emission limitations. The District Board is required to actively consider the socioeconomic impacts of the proposal and make a good faith effort to minimize adverse socioeconomic impacts. California HSC §40728.5 defines “socioeconomic impact” to mean the following:

1. The type of industry or business, including small business, affected by the proposed rule or rule amendments.
2. The impact of the proposed rule or rule amendments on employment and the economy of the region.
3. The range of probable costs, including costs to industry or business, including small business.
4. The availability and cost-effectiveness of alternatives to the proposed rule or rule amendments.
5. The emission reduction potential of the rule or regulation.
6. The necessity of adopting, amending, or repealing the rule or regulation to attain state and federal ambient air standards.

### **Type of industry or business, including small business, affected by the proposed rule**

Rule 442 applies to any business that manufactures, markets, blends, repackages, or sells architectural coatings and to any person/business that applies any architectural coating within the District. The proposed amendments have the potential to affect coating manufacturers, retail and wholesale coating distributors, and any other entity that blends or repackages architectural coatings. It applies to government agencies, commercial businesses, non-profit organizations, residents, and any other consumers who apply, contract or solicit application or use of architectural coatings, such as homeowners, painting contractors, construction companies, and building maintenance contractors. Many small businesses apply architectural coatings to either their own structures or as professional painters and will be affected by the proposed amendments if the contingency provisions are triggered.

**Impact of rule amendments on employment and economy in the District**

There is one manufacturer of architectural coatings within the District, and many marketers, distributors, wholesalers, blenders, repackagers, and retailers of architectural coatings. There may also be suppliers of coating ingredients and manufacturing equipment. Marketers, distributors, wholesalers, blenders, repackagers, sellers, and commercial coatings businesses would be able to pass on most of their costs to consumers.

CARB analyzed the economic impacts during the development of the SCM. Profitability impacts were estimated by calculating the decline in the return on owner's equity (ROE). ROE is calculated by dividing the net profit by the net worth. A reduction of more than 10 percent in ROE is considered to indicate a potential for significant adverse economic impacts. Assuming that coating manufacturers will have to absorb all costs associated with the SCM, the measure is expected to result in an average ROE decline of three percent, which is not considered to be a significant impact.

CARB also analyzed the scenario in which all cost increases are passed on to the consumer. In this scenario, CARB estimated an average increase of \$3.82 per gallon, or 11%, in the retail cost of coatings. However, this is a conservatively high estimate of the cost increase, because many consumers may choose to buy the available compliant coatings at current prices instead of the reformulated coatings. The competition from the currently available compliant coatings will limit the ability of manufacturers to pass on all their costs to consumers due to competition from the currently available compliant coatings.

Because other California districts with large populations have adopted the 2019 SCM, paint manufacturers have already shifted their product lines to lower VOC products. Therefore, CARB's economic estimates represent an upper limit for the impact on the District, and Staff concludes that the employment in the paint and coating industry is unlikely to change significantly because of the proposed amendments.

**Range of probable costs, including costs to industry or business, including small business, of the proposed rule**

CARB estimated nonrecurring costs such as R&D, testing, one-time marketing, and equipment purchases. These costs were annualized and added to annual recurring costs, such as increases or decreases in raw material costs, labeling, packaging and reporting. They found a statewide total of \$3 million per year, in 2019 dollars, in costs to implement the SCM proposal. Based on population, the proposed amendments are estimated to cost approximately \$0.53 million per year in the District. CARB staff estimated that most affected businesses would be able to absorb the costs of the proposed amendments. There should be no disproportionate cost impact on small businesses unless they are operating with small or no margin of profitability.

**Availability and cost effectiveness of alternatives to the proposed rule**

Staff identified four alternatives to the proposed amendments to Rule 442:

- not amending the rule,
- adopting more stringent VOC limits for additional coating categories that are in effect in SCAQMD
- requiring the use of VOC capture and control systems, or
- restricting the small container exemption in addition to the proposed adoption of the 2019 SCM VOC limits.



If the rule is not amended, there will be no compliance costs. However, the District will not achieve emission reductions that are needed to help meet CAA contingency measure requirements, and will not fulfill its specific contingency measure commitment included in the 2015 NAAQS Plan to achieve 0.123 tons of VOC per summer day in 2032 from architectural coatings. As a result, these plans will not satisfy the CAA Sections 172(c)(9) and 182(c)(9) contingency measure requirements and will be disapproved by EPA.

As discussed in the Incremental Cost Effectiveness section, Staff determined that it is not feasible to adopt the more stringent VOC limits in SCAQMD Rule 1113 for additional coating categories beyond those included in the 2019 SCM. Staff also determined that requiring the use of VOC capture and control systems is not feasible.

### **Emission reduction potential of the proposed rule**

The proposed amendments to Rule 442 are estimated to achieve emission reductions of VOC of 0.279 tons per summer day by 2024 or 0.123 tons per summer day by 2032 if the contingency measure is triggered (see Emissions Impact section).

### **Necessity of adopting the rule**

The proposed amendments to Rule 442 are necessary to help the SFNA meet the CAA contingency measure requirements for the 2008 and 2015 NAAQS Plans.

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## **PUBLIC OUTREACH/COMMENTS**

Staff will hold a public workshop to present and discuss the proposed amendments. The District will send a notice via e-mail and U.S. mail (if requested) to interested parties, including the affected sources, and publish the notice on the District website and in the Sacramento Bee. The public can review the draft rule and this Statement of Reasons at that time. This section will be updated as public comments are received throughout the rule development process.

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## **ENVIRONMENTAL REVIEW**

In this rule amendment, the District proposes to lower the VOC content limits of architectural coatings as suggested by the CARB SCM. In the 2019 SCM, CARB relied on the environmental impact report (EIR) prepared in 2000 for the previous SCM<sup>18</sup>. The earlier EIR concluded that implementing the SCM throughout California (excluding the South Coast AQMD) would have no significant adverse impacts but would have a net air quality benefit. CARB staff evaluated the potential environmental impacts in six major areas: air quality, water demand and quality, public services, transportation and circulation, solid and hazardous waste, and health hazards.

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<sup>18</sup> *Final Program Environmental Impact Report For: Suggested Control Measure for Architectural Coatings*. CARB, June 2000.

District Staff reviewed the documents noted above and did not find information to suggest a different conclusion in Sacramento County. Therefore, the proposed rule is exempt from the California Environmental Quality Act (CEQA) as an action by a regulatory agency for protection of the environment (Class 8 Categorical Exemption, §15308 State CEQA Guidelines) and because it can be seen with certainty that there is no possibility that the activity in question may have a significant adverse effect on the environment (§15061(b)(3), State CEQA Guidelines).

California Public Resources Code §21159 requires an environmental analysis of the reasonably foreseeable methods of compliance. Compliance is expected to be achieved by the replacement of currently used coatings and solvents with compliant products. The proposed rules will not increase emissions and will not cause any other significant adverse effects on the environment; therefore, Staff has concluded that no environmental impacts will be caused by compliance with the proposed rule.

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## FINDINGS

The California HSC, Division 26, Air Resources, requires local districts to comply with a rule adoption protocol as set forth in §40727 of the Code. This section contains six findings that the District must make when developing, amending, or repealing a rule. These findings and their definitions are listed in the following table.

<b>Finding</b>	<b>Finding Determination</b>
<b>Authority:</b> The District must find that a provision of law or of a state or federal regulation permits or requires the District to adopt, amend, or repeal the rule.	The District is authorized to adopt and amend Rule 442 by California Health and Safety Code (HSC) Sections 40001, 40702, 40716, 41010, and 41013. [HSC Section 40727(b)(2)].
<b>Necessity:</b> The District must find that the rulemaking demonstrates a need exists for the rule, or for its amendment or repeal.	The amendment of Rule 442 is necessary to help meet CAA Sections 172(c)(9) and 182(c)(9) contingency measure requirements for the SFNA's 2008 and 2015 NAAQS Plans.
<b>Clarity:</b> The District must find that the rule is written or displayed so that its meaning can be easily understood by the persons directly affected by it.	Staff has reviewed the proposed rule and determined that it can be understood by the affected parties. In addition, the record contains no evidence that people directly affected by the rule cannot understand the rule. [HSC Section 40727(b)(3)].
<b>Consistency:</b> The rule is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.	The proposed rule does not conflict with, and is not contradictory to, existing statutes, court decisions, or state or federal regulations. [HSC Section 40727(b)(4)].
<b>Non-Duplication:</b> The District must find that either: 1) The rule does not impose the same requirements as an existing state or federal regulation; or (2) that the duplicative requirements are necessary or proper to execute the powers and duties granted to, and imposed upon, the District.	The proposed rule regulates the same coating materials as the National Rule for Architectural Coatings (40 CFR Part 59, Subpart D). However, the proposed standards are more stringent and do not duplicate federal requirements. [HSC Section 40727(b)(5)].

<b>Finding</b>	<b>Finding Determination</b>
<b>Reference:</b> The District must refer to any statute, court decision, or other provision of law that the District implements, interprets, or makes specific by adopting, amending or repealing the rule.	In adopting the proposed rule, the District is implementing the requirements of CAA Section 172(c)(9) and 182(c)(9), and HSC Sections 40150, and 40600. [HSC 40727(b)(6).]
<b>Additional Informational Requirements:</b> In complying with HSC Section 40727.2, the District must identify all federal requirements and District rules that apply to the same equipment or source type as the proposed rule or amendments.	No other District rules apply to the same equipment or source type. Appendix B includes comparisons with federal requirements (National VOC Emissions Standards for Architectural Coatings and BACT). [HSC Section 40727.2].

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Ventura County Air Pollution Control District. *Staff Report – Proposed Amendments to APCD Rule 74.2, Architectural Coatings*. July 27, 2009.

**APPENDIX A**  
**Table A-1: LIST OF CHANGES TO RULE 442**

<b>NEW SECTION NUMBER</b>	<b>EXISTING SECTION NUMBER</b>	<b>PROPOSED CHANGES</b>
101	Same	Added “marketed” for consistency with the rule and SCM applicability.
102	Same	Revised references to section number with exemptions.
102.1	Same	Added “markets,” consistent with the SCM.
110-112	110.1 – 110.2	For clarity, separated existing Section 110 exemptions into individual exemption Sections 100, 111, and 122 for Use or Shipment Outside District, Aerosol Coatings, and Small Containers.
112.1	110.3.a	For consistency with the SCM, added language to clarify that an exempt small container cannot be bundled together “with other containers of the same specific coating category” to be sold as a unit that exceeds one liter.
112.2	110.3.b	For consistency with the SCM, added language to clarify that the label or product literature for an exempt small container cannot suggest combining multiple containers “of the same specific coating category” so that the combination exceeds one liter.
113	N/A	Consistent with the SCM, added an exemption from VOC limits for colorants that are added at the factory or worksite, and for colorant containers sold for use in the fields or on a job site.
203	Same	Replaced “shall” with “must” for clarity.
206.1	Same	Removed “which is” to make consistent with other sections and updated the test method to the latest version.
206.2	Same	Updated the methods to the latest versions.
211	N/A	Added definition of “Building Envelope,” consistent with the SCM.
212	N/A	Added definition of “Building Envelope Coating,” consistent with the SCM.
213-216	211-214	Sections renumbered.
217	N/A	Added definition of “Contingency Measure Trigger Date,” which is the date of an EPA final rulemaking that conditions described in CAA Sections 172(c)(9) and 182(c)(9) have occurred in the District regarding the 2008 and 2015 8-hour ozone NAAQS. These CAA sections require severe nonattainment areas to include contingency measures in the SIP and to implement those measures if the area fails to make reasonable further progress, or to attain the NAAQS by the attainment date.
218-219	215-216	Sections renumbered.
220	217	Replaced “shall” with “must” for clarity and updated the test method to the latest version.

<b>NEW SECTION NUMBER</b>	<b>EXISTING SECTION NUMBER</b>	<b>PROPOSED CHANGES</b>
221	218	Section renumbered.
221.4	218.4	Replaced “shall” with “must” for clarity.
221.5	218.5	Updated references to renumbered sections.
222	219	Replaced “shall” with “must” for clarity and updated the test method to the latest version.
223	220	Updated the test method to the latest version.
224-227	221-224	Sections renumbered.
228	225	Section renumbered and updated references to renumbered sections.
229	N/A	Added definition of “Interior Stain,” consistent with the SCM.
230	N/A	Added definition of “Intumescent,” consistent with the SCM.
231	226	Replaced “shall” with “must” for clarity and updated references to renumbered sections
232-233	227-228	Sections renumbered.
234	N/A	Added definition of “Market,” consistent with the SCM.
235-238	229-232	Sections renumbered.
239	233	Updated the test method to the latest version.
240	234	Updated the test method to the latest version and added a provision to sunset on the Contingency Measure Trigger Date.
241-244	235-238	Sections renumbered.
245	239	Updated the test method to the latest version.
246-247	240-241	Sections renumbered.
247.1	241.1	Updated the test methods to the latest versions.
247.2	241.2	Revised language to specified that a Reactive Penetrating Sealer must “provide a breathable waterproof barrier for concrete or masonry surfaces that does not prevent or substantially retard water vapor transmission rate,” consistent with the SCM. Updated the test method to the latest version and added an alternative test method, consistent with the SCM.
248-256	242-259	Sections renumbered.
257	251	Added that new labeling requirements for Specialty Primers, Sealers, and Undercoaters take effect on the Contingency Measure Trigger Date.
258	252	Section renumbered.
259	253	Section renumbered and updated reference to renumbered section.
260	254	Sections renumbered.
261	N/A	Added definition of “Tile and Stone Sealers,” consistent with the SCM.
262	255	Section renumbered.
263	256	Added that effective on the Contingency Measure Trigger Date, Traffic Marking Coatings also includes Methacrylate

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
		Multicomponent Coatings used as traffic marking coatings and included the method for analyzing them, consistent with the SCM.
264	257	Section renumbered.
264.2-264.4	257.2-257.4	Updated the test methods to the latest versions.
265-267	258-260	Sections renumbered.
268	261	Added “or colorant” to the definition of VOC Actual, which will be necessary after the Contingency Measure Trigger Date. Updated reference to renumbered section.
269	262	Added “or colorant” to the definition of VOC Content, which will be necessary after the Contingency Measure Trigger Date. Updated references to renumbered sections.
270	263	Added “or colorant” to the definition of VOC Regulatory, which will be necessary after the Contingency Measure Trigger Date. Updated reference to renumbered section.
271	264	Section renumbered.
271.2	264.2	Updated the test method to the latest version.
272	265	Sections renumbered. Updated the test method to the latest version.
273-275	266-268	Sections renumbered.
275.3	268.3	Updated the test method to the latest version.
301	Same	Added “FOR COATINGS” to section title to distinguish it from Section 307, VOC CONTENT LIMITS FOR COLORANTS, which takes effect on the Contingency Measure Trigger Date. Changed “no person shall” to “no person may” for clarity.
301.2	Same	Added “market” for consistency with the SCM.
Table 1	Same	Alongside the current VOC limits, added a column for more stringent limits that will take effect on the Contingency Measure Trigger Date.
Table 1	Same	The Nonflat – High Gloss Coatings category will be eliminated on the Contingency Measure Trigger Date and these coatings will fall under the Nonflat Coatings category,
Table 1	Same	Added Building Envelope Coatings category. This category currently does not have its own limit, but will be a new category if the contingency measure is triggered.
Table 1	Same	Separated the Stain category into Exterior/Dual Stains and Interior Only stains. Currently, these two categories have the same VOC limit but will have different limits on and after the Contingency Measure Trigger Date.
Table 1	Same	Added footnote to clarify definitions that will sunset on the Contingency Measure Trigger Date.
Table 1	Same	Added Tile and Stone Sealers category. This category currently does not have its own limit, but will be a new category if the contingency measure is triggered.
302	Same	Replaced “shall apply” with “applies” for clarity.



NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
303	Same	Provided for sell-through of coatings manufactured before the Contingency Measure Trigger Date for an additional one year, provided that the coating complies with the version of Rule 442 that became effective on September 24, 2015.
304	Same	Replaced “shall” with “must” for clarity.
305	Same	Replaced “shall” with “may” for clarity.
306	Same	Replaced “shall” with “must” for clarity and updated references to renumbered sections.
307	Same	Consistent with the SCM, added VOC limits for colorants. These limits will take effect on the Contingency Measure Trigger Date.
308	N/A	Added an early compliance option. This allows coatings that meet the requirements of the rule that will be in effect on and after the Contingency Measure Trigger Date to be considered in compliance prior to the Contingency Measure Trigger Date.
401	Same	Added “FOR COATINGS,” replaced “shall” with “must” for clarity and updated reference to renumbered section.
401.1-401.2	Same	Replaced “shall” with “must” for clarity.
401.3	Same	Replaced “shall” with “must” for clarity and updated reference to renumbered section.
401.4	Same	Replaced “shall” with “may” for clarity.
401.4.c	Same	Added a provision to sunset this section on the Contingency Measure Trigger Date. This will make the labeling requirements for industrial maintenance coatings consistent with the SCM.
401.5	Same	Replaced “shall” with “must” for clarity.
401.6	Same	Replaced “shall” with “must” for clarity. Added provision to sunset this labeling requirement on the Contingency Measure Trigger Date, when the definition of this coating category will also sunset (Section 240).
401.7-401.8	Same	Replaced “shall” with “must” for clarity.
401.9	N/A	Added new labeling requirement for Specialty Primers, Sealers, and Undercoaters, consistent with the SCM. This requirement will be effective on and after the Contingency Measure Trigger Date.
401.10-401.11	401.9-401.10	Replaced “shall” with “must” for clarity.
401.12	401.11	Replaced “shall” with “must” for clarity and updated reference to renumbered section.
401.12.a	401.11.a	Added a provision to sunset this section on the Contingency Measure Trigger Date, consistent with the SCM.
401.12.b	401.11.b	Capitalized “Professional Use Only” for clarity.
401.12.c	401.11.c	Added a provision to sunset this section on the Contingency Measure Trigger Date, consistent with the SCM.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
402	N/A	Added labeling requirements for Colorants, consistent with the SCM. The requirements will take effect on the Contingency Measure Trigger Date.
403	402	Added “or colorant” to calculate VOC content of colorants to determine compliance with new colorant VOC limits in Table 2. Replaced “shall” with “must” for clarity and updated references to renumbered sections.
501.1	Same	Replaced “shall” with “must” for clarity.
501.1.h	Same	Updated reference to renumbered section.
501.1.m- 501.1.n	Same	Updated references to renumbered sections.
501.2	Same	Replaced “shall” with “must” in the first sentence and replaced “shall” with “will” in the second sentence for clarity.
502.1.a- 502.1.d, 502.1.f	502	For clarity and consistency with the SCM, divided existing Section 502.1 into subsections. Added “or colorant” to specify the testing procedures to be used to determine the VOC content of colorants, which is needed to determine compliance with new colorant VOC limits in Table 2. Replaced “shall” with “must” for clarity. Updated the methods to the latest versions.
502.1.e	N/A	Consistent with the SCM, added new method that may be used to determine the VOC content of a coating or colorant with a VOC content of 1250 g/l or less.
502.3	Same	Replaced “shall” with “must” for clarity and corrected section number of the method that is incorporated by reference.
502.4	Same	Replaced “shall” with “must” for clarity.
502.4.a- 502.4.u	Same	Replaced “shall” with “must” for clarity. Updated the methods to the latest versions. Updated references to renumbered sections.
502.4.v- 502.4.ac	N/A	Consistent with SCM, added test methods for determining physical properties of two new coating categories – Building Envelope Coatings and Tile and Stone Sealers. Added two new methods for determining the VOC content of coatings.

## **APPENDIX B COMPARISON OF PROPOSED RULE REQUIREMENTS WITH OTHER AIR POLLUTION CONTROL REQUIREMENTS**

California Health and Safety Code (HSC) §40727.2 requires air districts to provide a written analysis to: 1) identify all existing federal air pollution control requirements, including Best Available Control Technology (BACT) for new or modified equipment, that apply to the same equipment or source type as the proposed rule, and 2) identify any of the District's existing or proposed rules that apply to the same equipment or source type. The analysis shall compare the following elements:

- Averaging provisions, units, and any other pertinent provisions associated with emission limits.
- Operating parameters and work practice requirements.
- Monitoring, reporting, and recordkeeping requirements, including test methods, format, content, and frequency.
- Any other element that the air district determines warrants review.

The EPA National Rule for Architectural Coatings and BACT are the two existing federal air pollution control requirements applicable to the analysis. Table B-1 contains the required analysis and Table B-2 compares the VOC limits proposed for Rule 442 with EPA's National Rule and BACT (the SCM).

Comparison with BACT: The 2019 SCM for Architectural Coatings is considered BACT. The proposed amendments to Rule 442 implement the SCM standards.

Comparison with the National Rule: CAA Section 183(e) requires EPA to regulate emissions from the categories of consumer and commercial products that, in the aggregate, account for 80% of the VOC emissions from consumer and commercial products. To reduce VOC emissions from architectural coatings, EPA issued a national architectural coatings rule (40 CFR Part 59, Subpart D) that became effective on September 11, 1999. The National Rule applies only to manufacturers and importers of architectural coatings, whereas proposed Rule 442 applies to distributors, retailers, and end users as well.

**Table B-1:  
 40727.2 Matrix for Proposed Amendments to Rule 442 Architectural Coatings**

<b>Comparative Requirements</b>			
<b>Elements of Comparison</b>	<b>Proposed Rule 442</b>	<b>Best Available Control Technology (BACT)</b>	<b>National Volatile Organic Compound Emission Standards for Architectural Coatings</b>  <b>40 CFR Part 59, Subpart D</b>
Applicability	The provisions of this rule shall apply to any person who supplies, sells, offers for sale, manufactures, blends, or repackages any architectural coating for use within the District, as well as any person who applies, or solicits application of any architectural coating within the District.	The 2019 SCM is considered BACT. SCM has same applicability as proposed rule.	Any architectural coating manufactured on or after September 13, 1999, for sale or distribution within the United States.
Exemptions	Any architectural coating that is supplied, sold, offered for sale, or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging. Any aerosol coating product. Coating in container with a volume of one liter or less provided containers are not bundled as a unit that exceeds one liter.	Any architectural coating that is supplied, sold, offered for sale, or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging. Coating in container with a volume of one liter or less.	Coating in a non-refillable aerosol container. Coating that is collected and distributed at a paint exchange. Coating that is sold in a container with a volume of one liter or less. Tonnage exemption allows each manufacturer and importer to sell or distribute limited quantities of architectural coatings that do not comply with the VOC limits and for which no exceedance fee is paid.
VOC Content Standards & Units	See Table B-2. Units are in g/L.	See Table B-2. Units are same as proposed rule.	See Table B-2. Units are same as proposed rule.
Application Methods	None.	None.	None.
Averaging Provisions	None.	None.	No averaging provisions but a manufacturer may pay an exceedance fee to manufacture or import a coating in excess of an applicable VOC content limit.

<b>Comparative Requirements</b>			
<b>Elements of Comparison</b>	<b>Proposed Rule 442</b>	<b>Best Available Control Technology (BACT)</b>	<b>National Volatile Organic Compound Emission Standards for Architectural Coatings</b>  <b>40 CFR Part 59, Subpart D</b>
Operating parameters & Work Practice Requirements	Closed containers when not in use. Thinning of any architectural coating shall not exceed the applicable VOC limit.	Same as proposed rule.	None.
Monitoring/ Testing	VOC Content: EPA Method 24 Various ASTM Test methods specified in Section 502.4 of rule Alternative test methods acceptable with approval by District, CARB, and EPA	Same as proposed rule.	VOC Content: EPA Method 24 Other test methods approved on a case-by-case basis.
Monitoring/ Recordkeeping	No monitoring requirements. Records of distribution and sales date must be maintained by each manufacturer.	Same as proposed rule.	No recordkeeping requirements except for recycled coatings. For recycled coatings, records of volume of coatings received for recycling, including unusable coatings, and virgin coatings used with recycled coatings, and volume of final recycled coatings.  Records must be retained for a period of 3 years.
Reporting	Each manufacturer shall, upon request of CARB, provide data concerning distribution and sales.	Same as proposed rule.	Manufacturers and importers must file an initial notification report listing the coatings they manufacture or import.
Labeling Requirements	Each coating shall display the following: date code, thinning recommendations, VOC content, and applicable labels required by various coating categories.	Same as proposed rule.	Each coating shall display the following: date code, thinning recommendations, and VOC content. For industrial maintenance coatings, additional description of use. Additional labeling requirement for recycled coatings stating what percent of coating is post-consumer.

**Table B-2:  
 Comparison of VOC Content Limits in Proposed Rule 442, CARB SCM, and National  
 Architectural Coatings Rule**

Coating Category	Limits VOC Regulatory, g/l		
	Rule 442 after contingency measure trigger date	CARB SCM	EPA's National Rule
Flat Coatings	50	50	250
Nonflat coatings	50	50	380
Nonflat – High Gloss	Eliminated	Eliminated	
<u>Specialty Coatings:</u>			
Aluminum Roof Coatings	100	100	500 <sup>1</sup>
Basement Specialty Coatings	400	400	600 <sup>2</sup>
Bituminous Roof Coatings	50	50	500 <sup>3</sup>
Bituminous Roof Primers	350	350	
Bond Breakers	350	350	600
Building Envelope Coatings	50	50	NA <sup>4</sup>
Concrete Curing Compounds	350	350	350
Concrete/Masonry Sealers	100	100	600 <sup>5</sup>
Driveway Sealers	50	50	500 <sup>6</sup>
Dry Fog Coatings	50	50	400
Faux Finishing Coatings	350	350	700 <sup>7</sup>
Fire Resistive Coatings	150	150	850(clear) 450(opaque) <sup>8</sup>
Floor Coatings	50	50	400
Form-Release Compounds	100	100	450
Graphic Arts Coatings (Sign Paints)	500	500	500
High Temperature IM Coatings	420	420	650
Industrial Maintenance (IM) Coatings	250	250	450
Low Solids Coatings	120	120	120
Magnesite Cement Coatings	450	450	600
Mastic Texture Coatings	100	100	300
Metallic Pigmented Coatings	500	500	500
Multi-Color Coatings	250	250	580
Pre-Treatment Wash Primers	420	420	780
Primers, Sealers, and Undercoaters	100	100	350 (nonflat) 400 (quick-dry) <sup>9</sup>
Reactive Penetrating Sealers	350	350	600 <sup>10</sup>
Recycled Coatings	250	250	<sup>11</sup>
Roof Coatings	50	50	250
Rust Preventative Coatings	250	250	400
Shellacs:			
Clear	730	730	730
Opaque	550	550	550

Coating Category	Limits VOC Regulatory, g/l		
	Rule 442 after contingency measure trigger date	CARB SCM	EPA's National Rule
Specialty Primers, Sealers and Undercoaters	100	100	350 (nonflat) 400 (quick-dry) <sup>12</sup>
Stains	Exterior/Dual 100 Interior Only 250	Exterior/Dual 100 Interior Only 250	550 (clear) 350 (opaque)
Stone Consolidants	450	450	NA <sup>13</sup>
Swimming Pool Coatings	340	340	600
Tile and Stone Sealers	100	100	NA <sup>14</sup>
Traffic Marking Coatings	100	100	150
Tub and Tile Refinish Coatings	420	420	450 <sup>15</sup>
Waterproofing Sealers/Membranes	100	100	600
Wood Coatings	275	275	400-725 <sup>16</sup>
Wood Preservatives	350	350	550 (clear) 350(opaque)
Zinc-Rich IM Primers	340	340	500 <sup>17</sup>

- 
- <sup>1</sup> Aluminum roof coatings are classified as metallic pigmented coatings in the National Architectural Coating Rule (National Rule).
  - <sup>2</sup> Basement specialty coatings are classified as waterproofing sealers and treatments coatings in the National Rule.
  - <sup>3</sup> Bituminous roof coatings/sealers are classified as bituminous or mastic texture coatings in the National Rule.
  - <sup>4</sup> Building Envelope Coatings are classified based on the specific specialty coating definition they meet in the National Rule, or, if not meeting any specialty coating definition, as Flat or Nonflat.
  - <sup>5</sup> Concrete/masonry sealers are classified as waterproofing sealers and treatments coatings in the National Rule.
  - <sup>6</sup> Driveway sealers are classified as bituminous coatings and mastics in the National Rule.
  - <sup>7</sup> Faux finishing coatings are classified as faux finishing/glazing coatings in the National Rule.
  - <sup>8</sup> The National Rule combined fire-retardant coatings and fire resistive coatings into one coating category, "Fire-retardant/resistive coatings."
  - <sup>9</sup> Primers, sealers, and undercoaters are classified as non-flat primers and undercoaters and quick-dry primers, sealers, and undercoaters in the National Rule.
  - <sup>10</sup> Reactive penetrating sealers are classified as waterproofing sealers and treatments coatings in the National Rule.
  - <sup>11</sup> The VOC content limits for recycled coatings are the same as for non-recycled coatings in the same coating category. However, the VOC content of a recycled coating may be adjusted downward based on the percentage of post-consumer coating content.
  - <sup>12</sup> Specialty primers, sealers, and undercoaters are classified as non-flat primers and undercoaters and quick-dry primers, sealers, and undercoaters in the National Rule.
  - <sup>13</sup> Stone Consolidants are classified based on the specific specialty coating definition they meet in the National Rule, or, if not meeting any specialty coating definition, as Flat or Nonflat.

<sup>14</sup> Tile and Stone Sealers are classified based on the specific specialty coating definition they meet in the National Rule, or, if not meeting any specialty coating definition, as Flat or Nonflat.

<sup>15</sup> Tub and tile refinish coatings are classified as industrial maintenance coatings in the National Rule.

<sup>16</sup> Wood coatings are classified as conversion varnish, lacquers, sanding sealers, sealers, and varnishes in the National Rule.

<sup>17</sup> Zinc-rich IM primers are classified as metallic pigmented coatings in the National Rule.



**APPENDIX C**  
**VOC EMISSION INVENTORY FOR ARCHITECTURAL COATINGS**

Sources:

"CEPAM: California 2016 Ozone SIP Baseline Emission Projections – Version 1.05, Sacramento Nonattainment Area Tool." CARB. December 8, 2016 (see Appendix C). Accessed March 6, 2024.

"CEPAM: California 2019 Ozone SIP Baseline Emission Projections – Version 1.04, Sacramento Nonattainment Area Tool." CARB. April 7, 2022 (see Appendix C). Accessed March 6, 2024.

**CEPAM: EXTERNAL ADJUSTMENT REPORTING TOOL**  
**Emission Projections by Summary Category**

**(Includes approved external emission adjustments)**

**Season:Summer**  
**Reactive Organic Gas**  
**Base Year: 2012**  
**Units:Tons/Day**

**PRELIMINARY DRAFT: SUBJECT TO CHANGE**

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**SACRAMENTO METROPOLITAN AQMD DISTRICT**

<b>EMISSIONS INVENTORY CATEGORY</b>	<b>2024</b>
520-520-9100-0000 520-ARCHITECTURAL COATINGS 9100-OIL BASED (ORGANIC SOLVENT BASED) COATINGS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.156
520-520-9105-0000 520-ARCHITECTURAL COATINGS 9105-OIL BASED PRIMERS_SEALERS_AND_UNDERCOATERS 0000-SUB-CATEGORY UNSPECIFIED	0.038
520-520-9106-0000 520-ARCHITECTURAL COATINGS 9106-OIL BASED QUICK DRY PRIMERS_SEALERS_AND_UNDERCOATERS 0000-SUB-CATEGORY UNSPECIFIED	0.046
520-520-9108-0000 520-ARCHITECTURAL COATINGS 9108-OIL BASED SPECIALTY PRIMER_SEALER_AND_UNDERCOATER 0000-SUB-CATEGORY UNSPECIFIED	0.064
520-520-9109-0000 520-ARCHITECTURAL COATINGS 9109-OIL BASED BITUMINOUS ROOF PRIMER 0000-SUB-CATEGORY UNSPECIFIED	0.013
520-520-9112-0000 520-ARCHITECTURAL COATINGS 9112-OIL BASED SANDING SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.014
520-520-9113-0000 520-ARCHITECTURAL COATINGS 9113-OIL BASED WATERPROOFING SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.029

520-520-9118-0000 520-ARCHITECTURAL COATINGS 9118-OIL BASED WATERPROOFING CONCRETE/MASONRY SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.079
520-520-9122-0000 520-ARCHITECTURAL COATINGS 9122-OIL BASED FAUX FINISHING 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9126-0000 520-ARCHITECTURAL COATINGS 9126-OIL BASED RUST PREVENTATIVE 0000-SUB-CATEGORY UNSPECIFIED	0.214
520-520-9131-0000 520-ARCHITECTURAL COATINGS 9131-OIL BASED STAINS - CLEAR/SEMITRSPARENT 0000-SUB-CATEGORY UNSPECIFIED	0.321
520-520-9136-0000 520-ARCHITECTURAL COATINGS 9136-OIL BASED STAINS - OPAQUE 0000-SUB-CATEGORY UNSPECIFIED	0.004
520-520-9141-0000 520-ARCHITECTURAL COATINGS 9141-OIL BASED VARNISH - CLEAR/SEMITRSPARENT 0000-SUB-CATEGORY UNSPECIFIED	0.174
520-520-9153-0000 520-ARCHITECTURAL COATINGS 9153-OIL BASED QUICK DRY ENAMEL COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.134
520-520-9157-0000 520-ARCHITECTURAL COATINGS 9157-OIL BASED LACQUERS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.052
520-520-9159-0000 520-ARCHITECTURAL COATINGS 9159-OIL BASED FLAT COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9160-0000 520-ARCHITECTURAL COATINGS 9160-OIL BASED NONFLAT - LOW GLOSS/MEDIUM GLOSS 0000-SUB-CATEGORY UNSPECIFIED	0.017
520-520-9161-0000 520-ARCHITECTURAL COATINGS 9161-OIL BASED HIGH GLOSS NONFLAT COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.007
520-520-9164-0000 520-ARCHITECTURAL COATINGS 9164-OIL BASED BITUMINOUS ROOF COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.004

520-520-9165-0000 520-ARCHITECTURAL COATINGS 9165-OIL BASED CONCRETE CURING COMPOUNDS 0000-SUB-CATEGORY UNSPECIFIED	0.006
520-520-9166-0000 520-ARCHITECTURAL COATINGS 9166-OIL BASED DRY FOG COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.010
520-520-9169-0000 520-ARCHITECTURAL COATINGS 9169-OIL BASED FLOOR COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.005
520-520-9170-0000 520-ARCHITECTURAL COATINGS 9170-OIL BASED FORM RELEASE COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.042
520-520-9171-0000 520-ARCHITECTURAL COATINGS 9171-OIL BASED HIGH TEMPERATURE COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.002
520-520-9172-0000 520-ARCHITECTURAL COATINGS 9172-OIL BASED INDUSTRIAL MAINTENANCE COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.188
520-520-9173-0000 520-ARCHITECTURAL COATINGS 9173-OIL BASED METALLIC PIGMENTED COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.096
520-520-9174-0000 520-ARCHITECTURAL COATINGS 9174-OIL BASED ROOF COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9176-0000 520-ARCHITECTURAL COATINGS 9176-OIL BASED TRAFFIC COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.013
520-520-9177-0000 520-ARCHITECTURAL COATINGS 9177-OIL BASED WOOD PRESERVATIVES 0000-SUB-CATEGORY UNSPECIFIED	0.033
520-520-9200-0000 520-ARCHITECTURAL COATINGS 9200-WATER BASED COATINGS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.031
520-520-9205-0000 520-ARCHITECTURAL COATINGS 9205-WATER BASED PRIMERS_SEALERS_AND_UNDERCOATERS 0000-SUB-CATEGORY UNSPECIFIED	0.207

520-520-9206-0000 520-ARCHITECTURAL COATINGS 9206-WATER BASED QUICK DRY PRIMERS_SEALERS_AND_UNDERCOATERS 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9208-0000 520-ARCHITECTURAL COATINGS 9208-WATER BASED SPECIALTY PRIMER_SEALER_AND_UNDERCOATER 0000-SUB-CATEGORY UNSPECIFIED	0.012
520-520-9209-0000 520-ARCHITECTURAL COATINGS 9209-WATER BASED BITUMINOUS ROOF PRIMER 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9212-0000 520-ARCHITECTURAL COATINGS 9212-WATER BASED SANDING SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9213-0000 520-ARCHITECTURAL COATINGS 9213-WATER BASED WATERPROOFING SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.040
520-520-9218-0000 520-ARCHITECTURAL COATINGS 9218-WATER BASED WATERPROOFING CONCRETE/MASONRY SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.018
520-520-9222-0000 520-ARCHITECTURAL COATINGS 9222-WATER BASED FAUX FINISHING 0000-SUB-CATEGORY UNSPECIFIED	0.018
520-520-9223-0000 520-ARCHITECTURAL COATINGS 9223-WATER BASED FORM RELEASE COMPOUNDS 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9226-0000 520-ARCHITECTURAL COATINGS 9226-WATER BASED RUST PREVENTATIVE 0000-SUB-CATEGORY UNSPECIFIED	0.004
520-520-9231-0000 520-ARCHITECTURAL COATINGS 9231-WATER BASED STAINS - CLEAR/SEMITRANSSPARENT 0000-SUB-CATEGORY UNSPECIFIED	0.018
520-520-9236-0000 520-ARCHITECTURAL COATINGS 9236-WATER BASED STAINS - OPAQUE 0000-SUB-CATEGORY UNSPECIFIED	0.022
520-520-9241-0000 520-ARCHITECTURAL COATINGS 9241-WATER BASED VARNISHES - CLEAR/SEMITRANSSPARENT 0000-SUB-CATEGORY UNSPECIFIED	0.016

520-520-9257-0000 520-ARCHITECTURAL COATINGS 9257-WATER BASED LACQUERS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.013
520-520-9259-0000 520-ARCHITECTURAL COATINGS 9259-WATER BASED FLAT COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.438
520-520-9260-0000 520-ARCHITECTURAL COATINGS 9260-WATER BASED NONFLAT - LOW GLOSS/MEDIUM GLOSS 0000-SUB-CATEGORY UNSPECIFIED	0.755
520-520-9261-0000 520-ARCHITECTURAL COATINGS 9261-WATER BASED HIGH GLOSS NONFLAT COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.057
520-520-9264-0000 520-ARCHITECTURAL COATINGS 9264-WATER BASED BITUMINOUS ROOF COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.002
520-520-9265-0000 520-ARCHITECTURAL COATINGS 9265-WATER BASED CONCRETE CURING COMPOUNDS 0000-SUB-CATEGORY UNSPECIFIED	0.017
520-520-9266-0000 520-ARCHITECTURAL COATINGS 9266-WATER BASED DRY FOG COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.004
520-520-9269-0000 520-ARCHITECTURAL COATINGS 9269-WATER BASED FLOOR COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.027
520-520-9272-0000 520-ARCHITECTURAL COATINGS 9272-WATER BASED INDUSTRIAL MAINTENANCE COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.036
520-520-9273-0000 520-ARCHITECTURAL COATINGS 9273-WATER BASED METALLIC PIGMENTED COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.002
520-520-9274-0000 520-ARCHITECTURAL COATINGS 9274-WATER BASED ROOF COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.014
520-520-9276-0000 520-ARCHITECTURAL COATINGS 9276-WATER BASED TRAFFIC COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.068

520-520-9277-0000 520-ARCHITECTURAL COATINGS 9277-WATER BASED WOOD PRESERVATIVES 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-522-8302-0000 522-THINNING AND CLEANUP SOLVENTS 8302-THINNING SOLVENTS - COATINGS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.231
520-522-8310-0000 522-THINNING AND CLEANUP SOLVENTS 8310-ADDITIVES 0000-SUB-CATEGORY UNSPECIFIED	0.022
520-522-8350-0000 522-THINNING AND CLEANUP SOLVENTS 8350-CLEANUP SOLVENTS - COATINGS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.519
<b>** GRAND TOTAL FOR SACRAMENTO METROPOLITAN AQMD DISTRICT</b>	<b>4.353</b>

Notes:

- Migration ID: 2016\_SIP\_V105\_SAC
- AF Migration Table: AF\_MASTERSP16SAC0Z105

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## CEPAM: EXTERNAL ADJUSTMENT REPORTING TOOL Emission Projections by Summary Category

(Includes approved external emission adjustments)

Season: Summer  
Reactive Organic Gas  
Base Year: 2017  
Units: Tons/Day

**PRELIMINARY DRAFT: SUBJECT TO CHANGE**

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### SACRAMENTO METROPOLITAN AQMD DISTRICT

EMISSIONS INVENTORY CATEGORY	2032
520-520-9100-0000 520-ARCHITECTURAL COATINGS 9100-OIL BASED (ORGANIC SOLVENT BASED) COATINGS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.017
520-520-9105-0000 520-ARCHITECTURAL COATINGS 9105-OIL BASED PRIMERS_SEALERS_AND_UNDERCOATERS 0000-SUB-CATEGORY UNSPECIFIED	0.002
520-520-9106-0000 520-ARCHITECTURAL COATINGS 9106-OIL BASED QUICK DRY PRIMERS_SEALERS_AND_UNDERCOATERS 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9108-0000 520-ARCHITECTURAL COATINGS 9108-OIL BASED SPECIALTY PRIMER_SEALER_AND_UNDERCOATER 0000-SUB-CATEGORY UNSPECIFIED	0.009
520-520-9109-0000 520-ARCHITECTURAL COATINGS 9109-OIL BASED BITUMINOUS ROOF PRIMER 0000-SUB-CATEGORY UNSPECIFIED	0.006
520-520-9112-0000 520-ARCHITECTURAL COATINGS 9112-OIL BASED SANDING SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9113-0000 520-ARCHITECTURAL COATINGS 9113-OIL BASED WATERPROOFING SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.046



520-520-9118-0000 520-ARCHITECTURAL COATINGS 9118-OIL BASED WATERPROOFING CONCRETE/MASONRY SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.070
520-520-9122-0000 520-ARCHITECTURAL COATINGS 9122-OIL BASED FAUX FINISHING 0000-SUB-CATEGORY UNSPECIFIED	0.002
520-520-9124-0000 520-ARCHITECTURAL COATINGS 9124-OIL BASED MASTIC TEXTURE 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9126-0000 520-ARCHITECTURAL COATINGS 9126-OIL BASED RUST PREVENTATIVE 0000-SUB-CATEGORY UNSPECIFIED	0.035
520-520-9131-0000 520-ARCHITECTURAL COATINGS 9131-OIL BASED STAINS - CLEAR/SEMITRANSSPARENT 0000-SUB-CATEGORY UNSPECIFIED	0.200
520-520-9136-0000 520-ARCHITECTURAL COATINGS 9136-OIL BASED STAINS - OPAQUE 0000-SUB-CATEGORY UNSPECIFIED	0.056
520-520-9141-0000 520-ARCHITECTURAL COATINGS 9141-OIL BASED VARNISH - CLEAR/SEMITRANSSPARENT 0000-SUB-CATEGORY UNSPECIFIED	0.165
520-520-9153-0000 520-ARCHITECTURAL COATINGS 9153-OIL BASED QUICK DRY ENAMEL COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9157-0000 520-ARCHITECTURAL COATINGS 9157-OIL BASED LACQUERS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.008
520-520-9159-0000 520-ARCHITECTURAL COATINGS 9159-OIL BASED FLAT COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.004
520-520-9160-0000 520-ARCHITECTURAL COATINGS 9160-OIL BASED NONFLAT - LOW GLOSS/MEDIUM GLOSS 0000-SUB-CATEGORY UNSPECIFIED	0.030
520-520-9161-0000 520-ARCHITECTURAL COATINGS 9161-OIL BASED HIGH GLOSS NONFLAT COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.012

520-520-9164-0000 520-ARCHITECTURAL COATINGS 9164-OIL BASED BITUMINOUS ROOF COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9165-0000 520-ARCHITECTURAL COATINGS 9165-OIL BASED CONCRETE CURING COMPOUNDS 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9166-0000 520-ARCHITECTURAL COATINGS 9166-OIL BASED DRY FOG COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9169-0000 520-ARCHITECTURAL COATINGS 9169-OIL BASED FLOOR COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.005
520-520-9170-0000 520-ARCHITECTURAL COATINGS 9170-OIL BASED FORM RELEASE COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.005
520-520-9171-0000 520-ARCHITECTURAL COATINGS 9171-OIL BASED HIGH TEMPERATURE COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.002
520-520-9172-0000 520-ARCHITECTURAL COATINGS 9172-OIL BASED INDUSTRIAL MAINTENANCE COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.154
520-520-9173-0000 520-ARCHITECTURAL COATINGS 9173-OIL BASED METALLIC PIGMENTED COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.008
520-520-9174-0000 520-ARCHITECTURAL COATINGS 9174-OIL BASED ROOF COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9176-0000 520-ARCHITECTURAL COATINGS 9176-OIL BASED TRAFFIC COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.003
520-520-9177-0000 520-ARCHITECTURAL COATINGS 9177-OIL BASED WOOD PRESERVATIVES 0000-SUB-CATEGORY UNSPECIFIED	0.032
520-520-9200-0000 520-ARCHITECTURAL COATINGS 9200-WATER BASED COATINGS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.056

520-520-9205-0000 520-ARCHITECTURAL COATINGS 9205-WATER BASED PRIMERS_SEALERS_AND_UNDERCOATERS 0000-SUB-CATEGORY UNSPECIFIED	0.084
520-520-9206-0000 520-ARCHITECTURAL COATINGS 9206-WATER BASED QUICK DRY PRIMERS_SEALERS_AND_UNDERCOATERS 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9208-0000 520-ARCHITECTURAL COATINGS 9208-WATER BASED SPECIALTY PRIMER_SEALER_AND_UNDERCOATER 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9209-0000 520-ARCHITECTURAL COATINGS 9209-WATER BASED BITUMINOUS ROOF PRIMER 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9212-0000 520-ARCHITECTURAL COATINGS 9212-WATER BASED SANDING SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9213-0000 520-ARCHITECTURAL COATINGS 9213-WATER BASED WATERPROOFING SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.017
520-520-9218-0000 520-ARCHITECTURAL COATINGS 9218-WATER BASED WATERPROOFING CONCRETE/MASONRY SEALERS 0000-SUB-CATEGORY UNSPECIFIED	0.022
520-520-9222-0000 520-ARCHITECTURAL COATINGS 9222-WATER BASED FAUX FINISHING 0000-SUB-CATEGORY UNSPECIFIED	0.004
520-520-9223-0000 520-ARCHITECTURAL COATINGS 9223-WATER BASED FORM RELEASE COMPOUNDS 0000-SUB-CATEGORY UNSPECIFIED	0.004
520-520-9224-0000 520-ARCHITECTURAL COATINGS 9224-WATER BASED MASTIC TEXTURE 0000-SUB-CATEGORY UNSPECIFIED	0.002
520-520-9226-0000 520-ARCHITECTURAL COATINGS 9226-WATER BASED RUST PREVENTATIVE 0000-SUB-CATEGORY UNSPECIFIED	0.001
520-520-9231-0000 520-ARCHITECTURAL COATINGS 9231-WATER BASED STAINS - CLEAR/SEMITRANSSPARENT 0000-SUB-CATEGORY UNSPECIFIED	0.004

520-520-9236-0000 520-ARCHITECTURAL COATINGS 9236-WATER BASED STAINS - OPAQUE 0000-SUB-CATEGORY UNSPECIFIED	0.014
520-520-9241-0000 520-ARCHITECTURAL COATINGS 9241-WATER BASED VARNISHES - CLEAR/SEMITRANSSPARENT 0000-SUB-CATEGORY UNSPECIFIED	0.028
520-520-9257-0000 520-ARCHITECTURAL COATINGS 9257-WATER BASED LACQUERS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.003
520-520-9259-0000 520-ARCHITECTURAL COATINGS 9259-WATER BASED FLAT COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.115
520-520-9260-0000 520-ARCHITECTURAL COATINGS 9260-WATER BASED NONFLAT - LOW GLOSS/MEDIUM GLOSS 0000-SUB-CATEGORY UNSPECIFIED	0.144
520-520-9261-0000 520-ARCHITECTURAL COATINGS 9261-WATER BASED HIGH GLOSS NONFLAT COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.015
520-520-9264-0000 520-ARCHITECTURAL COATINGS 9264-WATER BASED BITUMINOUS ROOF COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.024
520-520-9265-0000 520-ARCHITECTURAL COATINGS 9265-WATER BASED CONCRETE CURING COMPOUNDS 0000-SUB-CATEGORY UNSPECIFIED	0.054
520-520-9266-0000 520-ARCHITECTURAL COATINGS 9266-WATER BASED DRY FOG COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.004
520-520-9269-0000 520-ARCHITECTURAL COATINGS 9269-WATER BASED FLOOR COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.007
520-520-9272-0000 520-ARCHITECTURAL COATINGS 9272-WATER BASED INDUSTRIAL MAINTENANCE COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.020
520-520-9273-0000 520-ARCHITECTURAL COATINGS 9273-WATER BASED METALLIC PIGMENTED COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.000

520-520-9274-0000 520-ARCHITECTURAL COATINGS 9274-WATER BASED ROOF COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9276-0000 520-ARCHITECTURAL COATINGS 9276-WATER BASED TRAFFIC COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.026
520-520-9277-0000 520-ARCHITECTURAL COATINGS 9277-WATER BASED WOOD PRESERVATIVES 0000-SUB-CATEGORY UNSPECIFIED	0.000
520-520-9281-0000 520-ARCHITECTURAL COATINGS 9281-COLORANT - EXCLUDING IM COATINGS (50 G/L) 0000-SUB-CATEGORY UNSPECIFIED	0.045
520-520-9282-0000 520-ARCHITECTURAL COATINGS 9282-COLORANT - SOLVENT BASED IM COATINGS 0000-SUB-CATEGORY UNSPECIFIED	0.006
520-522-8302-0000 522-THINNING AND CLEANUP SOLVENTS 8302-THINNING SOLVENTS - COATINGS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.207
520-522-8310-0000 522-THINNING AND CLEANUP SOLVENTS 8310-ADDITIVES 0000-SUB-CATEGORY UNSPECIFIED	0.023
520-522-8350-0000 522-THINNING AND CLEANUP SOLVENTS 8350-CLEANUP SOLVENTS - COATINGS (UNSPECIFIED) 0000-SUB-CATEGORY UNSPECIFIED	0.143
<b>** GRAND TOTAL FOR SACRAMENTO METROPOLITAN AQMD DISTRICT</b>	<b>1.949</b>

Notes:

- Migration ID: SIP2019\_V104\_SAC
- AF Migration Table: AF\_MASTERSP19SACOZ104

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