

BOARD MEETING DATE: October 6, 2017

AGENDA NO. 32

PROPOSAL: Certify the Final Environmental Assessment and Amend Rule 1168 – Adhesive and Sealant Applications

SYNOPSIS: The proposed amendments will implement, in part, the 2016 Air Quality Management Plan Control Measure CTS-01: Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants, which targets a 1 ton per day VOC emission reduction by 2023. The amendments include: revision of VOC content limits for various categories; reporting and labeling requirements; clarification of rule language and applicability; language that distinguishes when products are regulated by the California Air Resources Board Consumer Products Regulation or Rule 1168; harmonization of language and requirements with regulations (state and national) affecting the same type of products; addition of test methods; removal of, or addition to, certain exemptions; and prohibition of Group II exempt compounds as defined in Rule 102.

COMMITTEE: Stationary Source, September 15, 2017, Reviewed

RECOMMENDED ACTIONS:

Adopt the attached Resolution:

1. Certifying the Final Environmental Assessment for Proposed Amended Rule 1168 – Adhesive and Sealant Applications; and
2. Amending Rule 1168 – Adhesive and Sealant Applications.

Wayne Natri
Executive Officer

PF:JW:MK:HF:NS

Background

Rule 1168 was adopted in 1989 to control VOC emissions from adhesive applications. The rule applies to products used during manufacturing at stationary sources and products used by consumers that are not regulated by the California Air Resources Board (CARB) Consumer Products Regulation. The rule has been amended 13 times; the last amendment was in January 2005. In 1997, several categories were added to the rule, including sealants and sealant primers. In terms of VOC reductions, the last six amendments, dating

back to 1998, have been associated with proposals to reduce VOC emissions from Top and Trim adhesives and welding cements for Acrylonitrile-Butadiene-Styrene (ABS), Chlorinated Polyvinyl Chloride (CPVC), and Polyvinyl Chloride (PVC). During that period, several key amendments were made to prohibit sales of non-compliant products and to restrict the use of some toxic chemicals including methylene chloride, perchloroethylene, and trichloroethylene.

Proposal

The purpose of Proposed Amended Rule (PAR) 1168 is to reduce VOC and toxic air contaminant emissions from adhesives and sealants and to clarify the rule language. Staff proposes the following major amendments for PAR 1168:

- Revise, delete, and add certain definitions.
- Amend VOC limits for certain regulated products and allow a three-year sell-through/use-through.
- Establish new categories and reduce some of the associated VOC limit for those categories.
- Include technology assessments for several categories with VOC limit reductions.
- Include reporting requirements for:
 - Manufacturers, private labelers, Big Box retailers, and distribution centers that sell regulated products, aerosol adhesives, and aerosol adhesive primers into or within the District; and
 - Facilities that use non-compliant products under the 55 gallons per year exemption.
- Streamline and revise the provisions in the exemption section.

Public Process

The public process for PAR 1168 began in 2013 with eight working group meetings between June 2013 and May 2014. During that time, staff conducted a survey of product sales to improve the emission inventory, assess market share, and evaluate the VOC content of currently available products. In 2013, staff proposed partial VOC exemptions for tertiary-Butyl Acetate and Dimethyl Carbonate to maximize the potential VOC emission reductions. The rule amendment was put on hold in 2014 due to toxicity concerns about tertiary-Butyl Acetate and Dimethyl Carbonate. In May 2017, SCAQMD staff resumed PAR 1168 without the proposed exemptions for tertiary-Butyl Acetate and Dimethyl Carbonate as the Stationary Source Committee recommended a precautionary approach against exempting potentially toxic compounds.

In 2017, three working group meetings were held and staff also had frequent meetings with stakeholders and various trade associations. The Public Workshop was conducted on August 17, 2017 and the proposed amendment was presented at the Stationary Source Committee on September 15, 2017.

Key Issues

Staff worked with stakeholders to resolve a majority of their concerns through revisions of the rule language and providing clarification in the staff report. Staff defined additional product categories, extended certain compliance deadlines, and proposed several technology assessments. Following are key remaining issues.

Reporting Requirement

Several industry stakeholders and trade associations commented that the proposed reporting requirements for manufacturers are too burdensome because compiling the requested information is time consuming and costly. However, staff believes that accurate emissions inventory data is critical for planning and the majority of adhesive and sealant emissions come from small, unpermitted sources where available data is limited. In response, staff extended the reporting timeline so that the current proposal requires reporting for manufacturers, private labelers, Big Box retailers, and distribution centers every three years until 2025, then every five years, with a sunset date in 2040. This provides a balance between the need for accurate emission information and the reporting burdens.

RadTech International also requested that as an additional incentive, reporting should not be required for products with a VOC content less than 20 g/L. However, without sales and emission data for these products, it would not be possible to determine the full product profile and market penetration of ultra-low VOC products or determine accurate emission inventories.

Foam Insulation

The American Chemistry Council requested that insulating foams should not be included in the rule amendments because insulating foams are not considered “sealants” by industry, as their *primary* purpose is not to fill a gap, but rather, to insulate. Staff acknowledges that these products are used for insulation but to serve that function, they must *fill the gap* in the wall cavity; therefore, they meet the current sealant definition. The proposed amendment addresses this uncertainty by including a definition for foam insulation. To address their concern, staff consulted the CARB Consumer Products Regulation and the Ozone Transport Commission Model Rule for Consumer Products, both of which include “weatherproof gaps” in the definition of a sealant, which further supports the treatment of foam insulations as sealants. Staff is proposing to harmonize the definition of sealant in PAR 1168 with the CARB Consumer Products Regulation and the Ozone Transport Commission Model Rule, as stakeholders have requested; thus further clarifying that insulating foams fall under Rule 1168.

PVC Welding Cement Proposed Limit

A concern was raised regarding the current availability of PVC Welding Cements meeting the proposed VOC limit of 425 g/L. Staff based the proposed VOC limit on two products that are currently available in the marketplace. The pipe welding industry is dominated by four major manufacturers; two of the leading manufacturers have commercial products at the proposed VOC limit currently available at retail outlets. For example, Oatey

reformulated their All Purpose Cement from 510 g/L to below 325 g/L in 2016. All Purpose cements are used to weld ABS, CPVC, and PVC. In addition, there is a product currently available to the irrigation market for PVC and CPVC that is below the proposed future limit.

The proposed VOC limit reductions are not effective until January 1, 2023, allowing five years for product reformulation, testing, and certification. The proposed rule also includes a technology assessment so staff can evaluate the progress of the reformulation efforts and report to the Board.

Test Methods Concerns have been raised that the regulated industry would have to use multiple test methods must be used to demonstrate compliance with the VOC limits in the rule. Rule 1168 affects many types of products and product chemistries. Only one VOC test method is the most appropriate method for each product. This is based on product type, product chemistry, product application, and VOC content. Note: many of the VOC test methods are comprised of multiple tests (e.g., U.S. EPA Method 24 specifies a test method for water content, solids content, exempt compound content, and density of the material). Staff will work with stakeholders to develop a guidance document to clarify which VOC test method should be performed on each product type affected by the rule.

California Air Resources Board Consumer Products Regulation and Rule 1168 Jurisdiction

The Consumer Specialty Products Association, Roof Coatings Manufacturers Association, and Adhesive and Sealant Council have commented that PAR 1168 exceeds the SCAQMD's regulatory authority over consumer products. Rule 1168 exempts products regulated by CARB in the Consumer Products Regulation. PAR 1168 clarifies this exemption as follows:

- The exemption only applies to consumer products with a VOC limit in the CARB CPR. Consumer products without a VOC limit and products not included in the CARB CPR are not regulated by CARB and therefore can be regulated by the SCAQMD;
- The exemption does not apply to consumer products used at stationary sources, unless they are used for repair or maintenance. Consumer products that are not exempt include those products incorporated into goods or commodities and products used in pollution-generating activities, such as furniture repair.

On June 16, 2014, CARB sent a letter¹ that supports the SCAQMD's legal authority to regulate (1) adhesives and sealants that currently do not have VOC limits in the CARB CPR and (2) consumer products that currently do have VOC limits when they are used as part of a manufacturing operation.

http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1168/carb_cpr_correspondence.pdf?sfvrsn=4

Emissions Inventory and Emission Reductions

According to the 2016 AQMP, the 2017 emissions from adhesives and sealants subject to the rule are 4.1 tpd. However, the survey staff conducted in 2013/2014 found the emissions to be closer to 10.5 tpd. Staff is proposing VOC limit reductions for numerous categories to achieve emission reductions of 1.4 tpd and to meet the 2016 AQMP VOC emission reduction commitment of 1 ton per day by 2023. The following table demonstrates the emission reductions anticipated from PAR 1168 by category.

Estimated Emission Reductions from PAR 1168

Category	Emission Reductions (tpd)			
	Upon Adoption	2019	2023	Total Reduction (tpd)
All Other Architectural Sealants		0.37		0.37
Clear, Paintable, and Immediately Water Resistant Sealant			0.02	0.02
CPVC Welding Cement			0.01	0.01
Foam Sealant			0.23	0.23
All Other Roof Adhesives			0.04	0.04
All Other Roof Sealants			0.14	0.14
All Other Sealants			0.06	0.06
PVC Welding Cement			0.18	0.18
Rubber Vulcanization Adhesive			0.06	0.06
Single Ply Roof Adhesive			0.05	0.05
Single Ply Roof Membrane Sealant			0.003	0.003
Top and Trim Adhesive	-0.21		0.21	
Wood Flooring Adhesive			0.24	0.24
Totals:	-0.21	0.37	1.16	1.38

California Environmental Quality Act

PAR 1168 is considered a “project” as defined by the California Environmental Quality Act (CEQA), and the SCAQMD is the designated lead agency. Pursuant to CEQA Guidelines Sections 15252 and 15070 and SCAQMD Rule 110, the SCAQMD has prepared an Environmental Assessment (EA) for PAR 1168. The environmental analysis in the Draft EA concluded that PAR 1168 would not generate any significant adverse environmental impacts and therefore, no alternatives or mitigation measures are required.

The Draft EA was released for a 30-day public review and comment period from August 16, 2017 to September 15, 2017. Two comment letters were received from the public relative to the Draft EA and responses to the comments have been prepared. The comment letters and the responses to the comments have been included in Appendix B of the Final EA.

Subsequent to release of the Draft EA, modifications were made to the proposed project. Staff has reviewed the modifications to the proposed project and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor do they provide new information of substantial importance relative to the Draft EA. As a result, these revisions do not require recirculation of the EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft EA is now a Final EA and is included as an attachment to the Board package. The Board must review the adequacy of the Final EA, including responses to comments, prior to certification of the Final EA and amending Rule 1168.

Socioeconomic Analysis

PAR 1168 would affect approximately 60 adhesive and sealant materials manufacturers of which eight are manufacturing products within the South Coast Air Basin (SCAB). PAR 1168 would also affect six Big Box retailers, and approximately 40 distributors located in and outside of the SCAB. These affected facilities belong to the industries of asphalt shingle and coating materials and adhesive manufacturing, and the sectors of retail and merchant wholesalers. PAR 1168 would also affect intermediate industrial users and end-users (general public) using products that are applicable to PAR 1168 and not regulated by CARB's Consumer Products Regulation.

None of the adhesive and sealant manufacturers and Big Box retailers that would be subject to PAR 1168 are considered small businesses under SCAQMD's definition of a small business. Most of the distributors and other industrial and commercial users that would be subject to PAR 1168 are likely to be small businesses.

It was assumed that PAR 1168 compliance costs are mainly for reformulation. The reformulation cost is estimated to range from \$2 to \$4 per gallon for the majority of affected product categories. The average total annual cost of the proposed amendments, which would be incurred by the affected facilities located in and outside of the SCAB, is estimated to be \$6.34 million, of which \$6.30 million is estimated for reformulation costs and the remaining \$0.04 is estimated for reporting costs. The cost-effectiveness of PAR 1168 is estimated at \$12,400 per ton of VOC reduced with an emission reduction of 1.4 tons of VOC per day by 2023.

The proposed amendments are projected to result in minimal job impacts across all major sectors of the regional economy.

AQMP and Legal Mandates

The California Health and Safety Code requires the SCAQMD to adopt an AQMP to meet state and federal ambient air quality standards in the South Coast Air Basin. In addition, the California Health and Safety Code requires the SCAQMD to adopt rules and regulations that carry out the objectives of the AQMP. The proposed amendments will implement, in part, Control Measure CTS-01 - Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants.

Implementation Plan and Resource Impact

Existing SCAQMD resources will be sufficient to implement the proposed changes to this rule with minimal impacts.

Attachments

- A. Summary of Proposed Amendments
- B. Key Issues
- C. Rule Development Process
- D. Key Contacts List
- E. Resolution
- F. Rule Language for Proposed Amended Rule 1168
- G. Final Staff Report
- H. Final Environmental Assessment
- I. Final Socioeconomic Assessment
- J. Board Meeting Presentation

ATTACHMENT A
SUMMARY OF PROPOSAL

Proposed Amended Rule 1168 – Adhesive and Sealant Applications

The purpose of Proposed Amended Rule (PAR) 1168 is to reduce VOC and toxic air contaminant emissions from adhesives and sealants and to clarify the rule language. Staff proposes the following major amendments for PAR 1168:

- Revise, delete, and add certain definitions.
- Amend VOC limits for certain regulated products and allow a three-year sell-through/use-through.
- Establish new categories and reduce some of the associated VOC limit for those categories.
- Include technology assessments for several categories with VOC limit reductions.
- Include reporting requirements for:
 - Manufacturers, private labelers, Big Box retailers, and distribution centers that sell regulated products, aerosol adhesives, and aerosol adhesive primers into or within the District; and
 - Facilities that use non-compliant products under the 55 gallons per year exemption.
- Streamline and revise the provisions in the exemption section.

The inventory is 10.5 tpd and the proposed amendments are expected to reduce the VOC emissions by 1.4 tpd by 2023.

ATTACHMENT B

KEY ISSUES AND RESPONSES

Proposed Amended Rule 1168 – Adhesive and Sealant Applications

Staff worked with stakeholders to resolve a majority of their concerns through revisions of the rule language and providing clarification in the staff report. Staff defined additional product categories, extended certain compliance deadlines, and proposed several technology assessments. Staff addressed other issues raised through suggested language in the resolution, such as clarification on multiple test methods and the test method for thin-film energy curable products where there is no applicable enforcement test method. The following are key remaining issues.

Reporting Requirement

- Several industry stakeholders and trade associations commented that the proposed reporting requirements for manufacturers are too burdensome.
- Staff revised the reporting requirements to every three years until 2025, then every five years, with a sunset date in 2040. This provides a balance between the need for accurate emission information and the reporting burdens.

Foam Insulation

- The American Chemistry Council requested that insulating foams not be included in the rule amendments because insulating foams are not considered “sealants” by industry.
- Staff interprets the definition of a sealant to include foam insulation because they *fill the gap* or joint between two surfaces, as defined in the rule.

PVC Welding Cement Proposed Limit

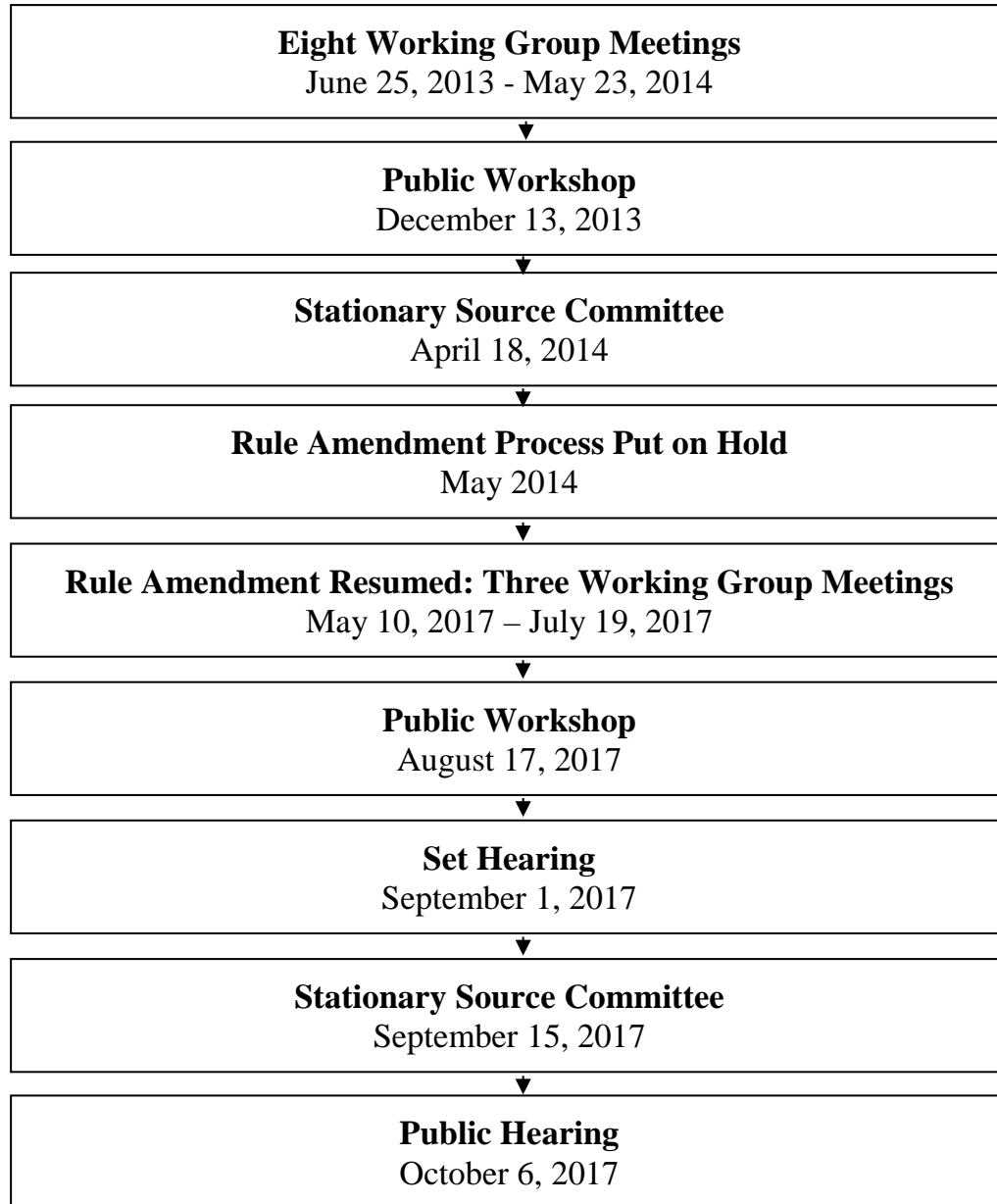
- A concern was raised regarding the current availability of PVC Welding Cements meeting the proposed VOC limit of 425 g/L.
- Staff based the proposed VOC limit on two products that are currently available in the marketplace and is allowing five years for product reformulation, and includes a technology assessment.

California Air Resources Board Consumer Products Regulation and Rule 1168 Jurisdiction

- The Consumer Specialty Products Association, Roof Coatings Manufacturers Association, and Adhesive and Sealant Council have commented that PAR 1168 exceeds the SCAQMD’s regulatory authority over consumer products.
- Rule 1168 exempts products regulated by CARB in the Consumer Products Regulation. PAR 1168 clarifies this exemption only applies to consumer products with a VOC limit in the CARB Consumer Products Regulation. Consumer products without a VOC limit and products not included in the CARB Consumer Products Regulation are not regulated by CARB and therefore can be regulated by the SCAQMD.

ATTACHMENT C
RULE DEVELOPMENT PROCESS

**Proposed Amended Rule 1168 – Adhesive and Sealant Applications
(2012 AQMP Control Measure #CTS-02 & 2016 AQMP Control Measure #CTS-01:
Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants)**



16 months spent in rule development
2 Public Workshops
11 Working Group Meetings

ATTACHMENT D
KEY CONTACTS LIST

3M Chemical
Adhesive and Sealant Council (ASC)
Adhesive Solutions
Aeropres Corporation
American Chemistry Council
American Coatings Association (ACA)
Andeavor
Bostik, Inc.
The Boeing Company
California Air Resources Board
California Building Material Dealers Association, Inc.
California Small Business Alliance
Carlisle SynTec
Christy's
Concorde Battery
Consumer Specialty Products Association (CSPA)
Creative Adhesives, Inc.
Custom Building Products
DAP Products Inc.
Dow Chemical Company
E4 Strategic Solutions
Engineered Polymer Solutions
EPDM Roofing Association (ERA)
Firestone Building Products
General Coatings Manufacturing Corp.
The Home Depot
Henkel Corporation
Johns Manville
Lith-O-Roll
Los Angeles County Sanitation Districts
Los Angeles Department of Water and Power
LyondellBasell Industries
Metropolitan Water District of Southern California
Oatey Co.
OMRON Delta Tau
Plastic Pipe and Fittings Association (PPFA)
The Port of Los Angeles
RadTech International
Ramboll Environ
Raymond Regulatory Services
Roof Coatings Manufacturers Association (RCMA)

S Bravo Systems
Sage ATC Environmental Consulting
Sashco Inc.
Seidner's Collision Centers
The Sherwin Williams Company
Shield Packaging of California Inc.
Single Ply Roofing Industry (SPRI)
Soudal Accumetric
Southern California Air Quality Alliance
Southern California Edison (SCE)
Spears Manufacturing
Stabond Corporation
Tremco Incorporated
Trinity Consultants
Union Roofing Contractors Association (URCA)
Weld-On
Western Colloid
W.F. Taylor
WR Meadows, Inc.

ATTACHMENT E

RESOLUTION NO. 17-_____

A Resolution of the Governing Board of the South Coast Air Quality Management District (SCAQMD) certifying the Final Environmental Assessment (EA) for Proposed Amended Rule 1168 – Adhesive and Sealant Applications.

A Resolution of the SCAQMD Governing Board adopting Proposed Amended Rule 1168 – Adhesive and Sealant Applications.

WHEREAS, the SCAQMD Governing Board has determined that a need exists to amend Rule 1168 – Adhesive and Sealant Applications to clarify rule language and reduce emissions from the use and sale of regulated products in order to help achieve air quality standards; and

WHEREAS, the SCAQMD Governing Board finds and determines that Proposed Amended Rule 1168 is considered a “project” pursuant to the California Environmental Quality Act (CEQA) per CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and

WHEREAS, the SCAQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l), and has conducted a CEQA review and analysis of Proposed Amended Rule 1168 pursuant to such program (SCAQMD Rule 110); and

WHEREAS, the SCAQMD staff has prepared a Draft EA pursuant to its certified regulatory program and CEQA Guidelines Sections 15251, 15252, and 15070, setting forth the potential environmental consequences of Proposed Amended Rule 1168 and determined that the proposed project would not have a significant adverse effect on the environment; and

WHEREAS, the Draft EA was circulated for 30-day public review and comment period, from August 16, 2017 to September 15, 2017, and two comment letters were received; and

WHEREAS, the Draft EA has been revised to include comments received on the Draft EA and the responses, so that it is now a Final EA; and

WHEREAS, it is necessary that the adequacy of the Final EA, including responses to comments relative to the Draft EA, be determined by the SCAQMD Governing Board prior to its certification; and

WHEREAS, pursuant to CEQA Guidelines Section 15252 (a)(2)(B), since no significant adverse impacts were identified, no alternatives or mitigation measures are required and thus, a Mitigation Monitoring and Reporting Plan pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097, has not been prepared; and

WHEREAS, Findings pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15091 and a Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093 were not prepared because the analysis shows that Proposed Amended Rule 1168 would not have a significant adverse effect on the environment, and thus, are not required; and

WHEREAS, the SCAQMD Governing Board voting to adopt Proposed Amended Rule 1168 has reviewed and considered the information contained in the Final EA and other supporting documentation, prior to its certification, and has determined that the document, including responses to comments, has been completed in compliance with CEQA; and

WHEREAS, the Final EA reflects the independent judgment of the SCAQMD; and

WHEREAS, the SCAQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (codified as Section 30.5(4)(D) of the Administrative Code), that the modifications which have been made to Proposed Amended Rule 1168 since the notice of public hearing was published do not significantly change the meaning of the proposed project within the meaning of Health and Safety Code Section 40726 and would not constitute significant new information requiring recirculation of the Draft EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5; and

WHEREAS, Proposed Amended Rule 1168 and supporting documentation, including, but not limited to, the Final Staff Report, the Final EA, and the Socioeconomic Impact Assessment, and this October 6, 2017 Board letter were presented to the SCAQMD Governing Board and the SCAQMD Governing Board has reviewed and considered the entirety of this information, as well as has taken and considered staff testimony and public comment prior to approving the project; and

WHEREAS, the SCAQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728, 41508, and 41511 of the Health and Safety Code; and

WHEREAS, Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the SCAQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the Final Staff Report; and

WHEREAS, the SCAQMD Governing Board has determined that a need exists to amend Rule 1168 to achieve further volatile organic compound (VOC) emission reductions for regulated products by implementing the 2016 Air Quality Management Plan (AQMP) Control Measure CTS-01: Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants in order to achieve the one-hour ozone standard by 2023, the 1997 eight-hour ozone standard by 2024, and the 2008 eight-hour standard by 2032; and

WHEREAS, the SCAQMD Governing Board has determined that Rule 1168, as proposed to be amended, is written and displayed so that its meaning can be easily understood by persons directly affected by them; and

WHEREAS, the SCAQMD Governing Board has determined that Rule 1168, as proposed to be amended, is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations; and

WHEREAS, the SCAQMD Governing Board has determined that Rule 1168, as proposed to be amended, does not impose the same requirements as any existing state or federal regulations, and the proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD; and

WHEREAS, Health and Safety Code Section 40727.2 requires the SCAQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts, or amends a rule, and that the SCAQMD's comparative analysis of Proposed Amended Rule 1168 is included in the Final Staff Report; and

WHEREAS, the SCAQMD Governing Board, in amending the regulation, references the following statutes which the SCAQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001(a) (air quality standards and enforcement of federal standards), 40440(a) (rules to carry out plan), 40440(b)(1) (BARCT), 40702 (adopt regulation to execute duties), and Federal Clean Air Act Section 116 (state standards at least as stringent as federal standards); and

WHEREAS, the SCAQMD Governing Board determines that there is a problem that Proposed Amended Rule 1168 will alleviate, (i.e., the South Coast Air Basin does not meet state or federal standards for ozone and PM2.5) and the proposed amendment will promote the attainment or maintenance of such air quality standards; and

WHEREAS, the SCAQMD Governing Board has determined that the Socioeconomic Impact Assessment, as attached to the Final Staff Report, of Proposed Amended Rule 1168 is consistent with the March 17, 1989 Governing Board Socioeconomic Resolution for rule adoption; and

WHEREAS, the SCAQMD Governing Board has determined that the Socioeconomic Impact Assessment, as attached to the Final Staff Report, is consistent with the provisions of Health and Safety Code Sections 40440.8, 40728.5, and 40920.6; and

WHEREAS, the SCAQMD Governing Board has determined that Proposed Amended Rule 1168 will result in increased costs to the affected industries, yet are considered to be reasonable, with a total annualized cost as specified in the Socioeconomic Impact Assessment, as attached to the Final Staff Report; and

WHEREAS, the SCAQMD Governing Board has actively considered the Socioeconomic Impact Assessment, as attached to the Final Staff Report, and has made a good faith effort to minimize such impacts; and

WHEREAS, the proposed amendments to Rule 1168 will help achieve emission reductions of VOCs from the various regulated product categories, estimated to be approximately 1.4 tons per day, and thus, the adoption of such amendments is necessary for achieving the federal and state standards for ozone and for implementing the AQMP; and

WHEREAS, the SCAQMD staff conducted a public workshop regarding Proposed Amended Rule 1168 on August 17, 2017; and

WHEREAS, the public hearing has been properly noticed in accordance with all provisions of Health and Safety Code Section 40725; and

WHEREAS, the SCAQMD Governing Board has held a public hearing in accordance with all provisions of law; and

WHEREAS, the SCAQMD Governing Board specifies the Manager for Rule 1168 as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of the proposed amendments are based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

WHEREAS, stakeholders requested that the SCAQMD staff develop a guidance document for test method determination based on regulated product type and VOC content and staff is working with stakeholders; and

WHEREAS, the SCAQMD staff will conduct technology assessments, while working with members of the regulated industry, to assess feasibility of the VOC limit reductions set forth within Proposed Amended Rule 1168 in 2020 for Foam Insulation and Foam Sealants and in 2022 for the Acrylonitrile-Butadiene-Styrene to Polyvinyl Chloride Transition Cement, All Other Roofing Adhesive and Sealant, Chlorinated Polyvinyl Chloride Welding Cement, Polyvinyl Chloride Welding Cement, Single Ply Roof Membrane Adhesive and Sealant, and Top and Trim Adhesive categories; and

WHEREAS, Proposed Amended Rule 1168 will be submitted for inclusion into the State Implementation Plan; and

NOW, THEREFORE BE IT RESOLVED, that the SCAQMD Governing Board does hereby certify that the Final EA for Proposed Amended Rule 1168, including responses to comments, was completed in compliance with CEQA and the SCAQMD Rule 110 provisions and finds that the Final EA was presented to the SCAQMD Governing Board, whose members reviewed, considered and approved the information therein prior to acting on Proposed Amended Rule 1168; and

BE IT FURTHER RESOLVED, that the SCAQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1168, as set forth in the attached, and incorporated herein by this reference; and

BE IT FURTHER RESOLVED, that because no significant adverse environmental impacts were identified as a result of implementing Proposed Amended Rule 1168, Findings pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15091, a Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093, and a Mitigation Monitoring and Reporting Plan pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097 are not required; and

BE IT FURTHER RESOLVED, that the Governing Board directs staff to continue to collaborate with members representing the regulated industry to develop a guidance document for test method determination based on regulated product type and VOC content and bring the guidance document to the Governing Board for approval; and

BE IT FURTHER RESOLVED, the Governing Board directs staff to review the manufacturer's formulation data and/or ASTM Test Method 7767 laboratory results for thin-film energy curable products to verify compliance with the VOC limits set forth in this rule; and

BE IT FURTHER RESOLVED, the Governing Board directs staff to consider the container size, application method, and use of the various products in these categories when evaluating the feasibility of future VOC limits for Foam Insulation and Foam Sealant products as part of the technology assessment; and

BE IT FURTHER RESOLVED, that the SCAQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1168, as set forth in the attached, and incorporated herein by this reference; and

BE IT FURTHER RESOLVED, that the SCAQMD Governing Board requests that Proposed Amended Rule 1168 be submitted into the State Implementation Plan; and

BE IT FURTHER RESOLVED, that the Executive Officer is hereby directed to forward a copy of this Resolution and Proposed Amended Rule 1168 to the California Air Resources Board for approval and subsequent submittal to the U.S. Environmental Protection Agency for inclusion into the State Implementation Plan.

Attachment

DATE: _____

CLERK OF THE BOARDS

ATTACHMENT F

(Adopted April 7, 1989)(Amended March 2, 1990)(Amended Feb. 1, 1991)
(Amended July 19, 1991)(Amended August 2, 1991)
(Amended December 4, 1992)(Amended December 10, 1993)
(Amended April 11, 1997)(Amended February 13, 1998)(Amended September 15, 2000)
(Amended June 7, 2002)(Amended July 12, 2002)(Amended October 3, 2003)
(Amended January 7, 2005)(Proposed Amended Rule 1168 October 2017)

PROPOSED AMENDED RULE 1168. ADHESIVE AND SEALANT APPLICATIONS

(a) Purpose and Applicability

The purpose of this rule is to reduce emissions of volatile organic compounds (VOCs), and toxic air contaminants, and stratospheric ozone-depleting compounds ~~to eliminate emissions of chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene~~ from the application of adhesives, adhesive bonding primers, adhesive primers, sealants, and sealant primers, ~~or any other primers~~. This rule applies to ~~all commercial and industrial~~ any person who uses, sells, stores, supplies, distributes, offers for sale, or manufactures for sale any sales and applications of adhesives, adhesive bonding primers, adhesive primers, sealants, or sealant primers, or any other primers, unless otherwise specifically exempted by this rule.

(b) Definitions

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

- (1) ACRYLIC is a thermoplastic polymer or a copolymer of acrylic acid, methacrylic acid, esters of these acids, or acrylonitrile.
- (2) ACRYLONITRILE-BUTADIENE-STYRENE (ABS) plastic is made by reacting monomers of acrylonitrile, butadiene, and styrene and is normally identified with an ABS marking.
- (3) ABS TO POLYVINYL CHLORIDE (PVC) TRANSITION CEMENT is Plastic Welding Cement used to join ABS and PVC building drains or building sewers.
- (4) ABS WELDING CEMENT is a Plastic Welding Cement that is used to join ABS pipe, fittings, and other system components, including, but not limited to, components for shower pan liner, drain, closet flange, and backwater valve systems.
- (35) ADHESIVE is any substance that is used to bond one surface to another surface by attachment.—~~Adhesives include adhesive bonding primers, adhesive primers, adhesive primers for plastics, and any other primer.~~

Rule 1168 (Cont.) (Amended January 7, 2005 Proposed Amended Rule 1168 October 2017)

- (4) ~~ADHESIVE BONDING PRIMER is an adhesive applied to a surface to improve the bond of subsequent adhesives and sometimes to inhibit corrosion.~~
- (56) ADHESIVE PRIMER is a coating-film-forming material applied to a substrate, prior to the application of an adhesive or adhesive tape, to provide a bonding surface-increase adhesion or film bond strength, promote wetting, or form a chemical bond with a subsequently applied adhesive.
- (67) ADHESIVE TAPE is a backing material coated with an adhesive, and includinges, but is not limited to, drywall tape, heat sensitive tape, pressure-sensitive adhesive tape, and water-activated tape.
- (6) ~~ADHESIVE PRIMER FOR PLASTIC is a material applied to a plastic substrate before applying an adhesive in order to obtain better adhesion.~~
- (7) ~~ADHESIVE PROMOTER is a coating applied to a substrate in a monomolecular thickness to promote wetting and form a chemical bond with the subsequently applied material.~~
- (8) ~~ADHESIVE SOLID is the nonvolatile portion of an adhesive that remains after heating a sample of the material at 110°C for one hour.~~
- (98) ~~_____ AEROSOL ADHESIVE means is any adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a nonrefillable can designed for hand-held application without the need for where no ancillary hoses or spray equipment is used. Aerosol adhesives include special purpose spray adhesives, mist spray adhesives, and web spray adhesives, as defined by the California Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, beginning at Section 94507.~~
- (9) AEROSOL PRODUCT is a pressurized spray system that dispenses product ingredients by means of a propellant contained in a product or a product's container, or by means of a mechanically induced force. Aerosol Products does not include Pump Spray.
- (10) ~~AEROSOL SPRAY CAN is a hand held, pressurized, non-refillable container which expels adhesives from the container in a finely divided spray when a valve on the container is depressed.~~
- (11) ~~AEROSPACE COMPONENT is the fabricated part, assembly of parts, or completed unit of any aircraft or space vehicle (excluding tires), and includes models, mock-ups, prototypes, and test coupons.~~

Rule 1168 (Cont.) (Amended January 7, 2005 Proposed Amended Rule 1168 October 2017)

- (12) — ~~AIRCRAFT~~ means any machine designed to travel through the air, without leaving the earth's atmosphere, whether heavier or lighter than air, including airplanes, balloons, dirigibles, helicopters, and missiles.
- (13) — ~~AIRCRAFT TIRE REPAIR~~ is the repair and retreading of used tires used on aircraft. This includes the repair of damage to the tire casing, removal of old tread rubber and tread reinforcing materials, and application of new tread and tread reinforcing materials.
- (14) ARCHITECTURAL APPLICATION is the use of a regulated product an adhesive, sealant, or adhesive or sealant primer on stationary structures, including mobile homes, and their appurtenances.
- (11) ARCHITECTURAL APPURTENANCE is any accessory to a stationary structure, including, but not limited to: hand railings; cabinets; bathroom and kitchen fixtures; fences; rain-gutters and down-spouts; window screens; lamp-posts; heating and air conditioning equipment; other mechanical equipment; large fixed stationary tools; signs; motion picture and television production sets; and concrete forms. ~~Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.~~
- (15) — ~~ARCHITECTURAL SEALANT OR SEALANT PRIMER~~ is any sealant or sealant primer applied to stationary structures, including mobile homes, and their appurtenances. ~~Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.~~
- (12) BIG BOX RETAILER is a physically large-chain retail outlet that is classified by the U.S. Department of Labor under North American Industry Classification System code 444110: Home Centers or identified in a list maintained by the Executive Officer.
- (13) BUILDING ENVELOPE is the exterior and demising partitions of a building that enclose conditioned space.
- (14) BUILDING ENVELOPE MEMBRANE ADHESIVES are used to adhere membranes applied to the building envelope to provide a barrier to air or vapor leakage through the building envelope that separates conditioned from unconditioned spaces. Building Envelope Membranes are applied to diverse materials, including, but not limited to, concrete masonry units

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

- (CMU), oriented stranded board (OSB), gypsum board, and wood substrates.
- ~~(1615)~~ CARPET PAD ADHESIVE is an adhesive used for the installation of a carpet pad (or cushion) beneath a carpet.
- ~~(1716)~~ CERAMIC, GLASS, PORCELAIN, AND STONE TILE ADHESIVE is an adhesive used for the installation of ceramic-tile products.
- ~~(18)~~ CERAMIC TILES are a ceramic surfacing unit made from clay or a mixture of clay and other materials.
- ~~(1917)~~ CHLORINATED POLYVINYL CHLORIDE (CPVC) plastic is a polymer of the chlorinated polyvinyl monomer that contains 67% chlorine and is normally identified with a CPVC marking.
- ~~(178)~~ CPVC WELDING CEMENT is a Plastic Welding Cement that is used to join CPVC pipe, fittings, and other system components, including, but not limited to, components for shower pan liner, drain, closet flange, and backwater valve systems.
- ~~(20)~~ COATING SOLID is the nonvolatile portion of a coating that remains after heating a sample of the material at 110°C for one hour.
- ~~(19)~~ CLEAR, PAINTABLE, AND IMMEDIATELY WATER-RESISTANT SEALANT is a compound with adhesive properties that contains no appreciable level of opaque fillers or pigments; transmits most or all visible light through itself when cured; is capable of being painted; is immediately resistant to precipitation upon application; and must meet the following criteria:
- (A) Clarity of 15 turbidity units or less per ASTM D7315 - Determination of Turbidity Above 1 Turbidity Unit (TU) in Static Mode as manufactured and packaged;
- (B) Color of Gardner 0 as tested by ASTM D1544 - Standard Test Method for Color of Transparent Liquids (Gardner Color Scale) or Platinum-Cobalt Color of 50 or less using ASTM D1209 - Standard Test Method for Color of Clear Liquids (Platinum-Cobalt Scale) as manufactured and packaged; and
- (C) Compatible with paint per ASTM C1520 Standard Guide for Paintability of Latex Sealants.
- ~~(240)~~ COMPUTER DISKETTE MANUFACTURING is the process where the fold-over flaps are glued to the body of a vinyl jacket.

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

- (221) CONTACT ADHESIVE is an adhesive applied to two separate surfaces, allowed to dry before the two surfaces are placed in contact with each other, and ~~brought together for adhesion and bonding with subsequent pressure~~ forms an immediate bond after both adhesive-coated surfaces are placed in full contact with each other.
- (22) CONSUMER PRODUCTS REGULATION (~~CPR~~) is the regulation implemented by the California Air Resources Board (CARB) under Title 17 of the California Code of Regulations, Section 94507, et. seq.
- (23) COVE BASE ADHESIVE ~~is an adhesive used during the installation of cove base (or wall base), which is generally made of vinyl or rubber, on a wall or vertical surface at floor level~~ a flooring trim unit, generally made of vinyl or rubber, having a concave radius on one edge and a convex radius on the opposite edge, that is used in forming a junction between the bottom wall course and the floor, to form an inside corner.
- (24) CYANOACRYLATE ADHESIVE is a ~~single-component reactive diluent~~ an acrylic adhesive that contains at least 85 percent by weight ethyl, methyl, methoxymethyl or other functional groupings of cyanoacrylate.
- (25) DIP COAT is a method of application to a substrate by submersion into, and removal from, a bath.
- (26) DISTRIBUTION CENTER is a warehouse or other specialized building, which is stocked with products (goods), to be redistributed to retailers, to wholesalers, or directly to end-users.
- (27) DRY WALL ADHESIVE is an adhesive used during the installation of gypsum dry wall to studs or solid surfaces.
- (28) EDGE GLUE is an adhesive applied to the edge of multi-sheet carbonless forms prior to being fanned apart after drying.
- (29) ELECTROSTATIC APPLICATION is a spray method where the atomized droplets are charged and subsequently deposited on the substrate by electrostatic attraction.
- (2630) ENERGY CURABLE ADHESIVES and SEALANTS are single-component reactive products that cure upon exposure to visible-light, ultra-violet light, or to an electron beam. The VOC content of thin film Energy Curable Adhesives and Sealants may be determined by manufacturers using ASTM Test Method 7767 Standard Test Method to Measure Volatiles from Radiation Curable Acrylate Monomers, Oligomers, and Blends and Thin Coatings Made from Them.

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

- (31) EXEMPT COMPOUNDS are as defined in Rule 102 – Definition of Terms.
- ~~(2732)~~ FACILITY means any permit unit or grouping of permit units or other air contaminant-emitting activities which are located on one or more contiguous properties within the District, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control). Such above-described groupings, if not contiguous, but connected only by land carrying a pipeline, shall not be considered one facility.
- ~~(2833)~~ FIBERGLASS is fine filaments of glass.
- ~~(34)~~ FLOW COAT is an application method that coats an object by flowing a stream of regulated product over the object and draining off any excess product.
- ~~(29)~~ FOAM is a rigid or spongy cellular mass with gas bubbles dispersed throughout.
- ~~(35)~~ FOAM INSULATION is an expanding foam that is sprayed into ceiling or wall cavities to provide thermal resistance or to minimize air infiltration.
- ~~(3536)~~ FOAM SEALANT is a foam used to fill and form a durable, airtight, water-resistant seal to common building substrates, such as wood, brick, concrete, foam board, and plastic.
- ~~(30)~~ GLUE is a hard gelatin obtained from hides, tendons, cartilage, bones, or other parts of animals.
- ~~(3167)~~ GRAMS OF VOC PER LITER OF REGULATED ADHESIVE OR SEALANT PRODUCT, LESS WATER AND LESS EXEMPT COMPOUNDS is the weight of VOC per combined volume of VOC and adhesive or sealant product solids, and can be calculated by the following equation:

Grams of VOC per Liter of Regulated Adhesive or Sealant Product, Less Water and Less

$$\text{Exempt Compounds} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

- Where: W_s = weight of volatile compounds, in grams
 W_w = weight of water, in grams
 W_{es} = weight of exempt compounds, in grams
 V_m = volume of material, in liters
 V_w = volume of water, in liters

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

V_{es} = volume of exempt compounds, in liters

~~For adhesives or sealants, reactive products that contain reactive diluents, the VOC content of the adhesive or sealant is determined after curing. The grams of VOC per liter of any regulated adhesive or sealant product, except a low-solids adhesive or sealant product, shall be calculated by the following equation:~~

Grams of VOC per Liter of Regulated Adhesive or Sealant Product, Less Water and Less

$$\text{Exempt Compounds} = \frac{W_{rs} - W_{rw} - W_{res}}{V_{rm} - V_{rw} - V_{res}}$$

Where: W_{rs} = weight of volatile compounds not consumed during curing, in grams

W_{rw} = weight of water not consumed during curing, in grams

W_{res} = weight of exempt compounds not consumed during curing, in grams

V_{rm} = volume of material prior to reaction, in liters

V_{rw} = volume of water not consumed during curing, in liters

V_{res} = volume of exempt compounds not consumed during curing, in liters

~~(3278)~~ GRAMS OF VOC PER LITER OF MATERIAL is the weight of VOC per volume of material, to be used for a low-solids ~~adhesive or sealant product~~, and can be calculated by the following equation:

$$\text{Grams of VOC per Liter of Material} = \frac{W_s - W_w - W_{es}}{V_m}$$

Where: W_s = weight of volatile compounds, in grams

W_w = weight of water, in grams

W_{es} = weight of exempt compounds, in grams

V_m = volume of material, in liters

For reactive products, the VOC content is determined after curing.

(3839) GROUT is a cement-based sealant formulated to fill or seal gaps, including those associated with, but not limited to, tile installations.

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

- (~~3339~~40) HAND APPLICATION METHODS is the application of a regulated adhesive or sealant product using by manually hand held equipment. Such equipment includes paint brush, hand roller, trowel, spatula, dauber, rag, sponges, and mechanically- and/or pneumatic-driven syringes ~~without provided there is no~~ atomization of the materials.
- (~~3440~~41) HIGH-VOLUME, LOW-PRESSURE (HVLP) SPRAY is equipment used to spray apply a regulated product coating by means of a spray gun that is designed to be operated and that is that-operated between 0.1 and 10 pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns.
- (~~3541~~42) INDOOR CARPET FLOOR COVERING ADHESIVE is an adhesive used during the installation of a carpet or indoor flooring that is in an enclosure and is not exposed to ambient weather conditions during normal use.
- ~~(42) INSULATING FOAM is an expanding foam that is sprayed into wall cavities or through holes drilled into a cavity of a finished wall to provide thermal resistance or to minimize air infiltration.~~
- ~~(36) LIGHT CURABLE ADHESIVES and SEALANTS are single-component reactive adhesives and sealants that cure upon exposure to visible light, ultra-violet light or to an electron beam.~~
- (~~37~~43) LOW-SOLIDS ADHESIVE is any regulated adhesive product that contains which has less than one pound of solids per gallon of material (or 120 grams of solids per liter of material).
- ~~(38) LOW SOLIDS ADHESIVE PRIMER is an adhesive primer which has less than one pound of solids per gallon of material (or 120 grams of solids per liter of material).~~
- (~~44~~) MAINTENANCE is a routine process to keep equipment and machinery in working order or to prevent breakdowns.
- (~~45~~) MANUFACTURING is the use of tools and labor to make things for sale.
- (~~46~~) MARINE APPURTENANCES include, but are not limited to, a wood boardwalk, deck, dock, fender, lock gate, or other wooden structure specified for the marine environment.
- (~~39~~47) MARINE DECK SEALANT is any sealant that is to be applied to wooden marine decks and their appurtenances and is specified and used exclusively for the marine environment.

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

- (408) MARINE DECK SEALANT PRIMER is any sealant primer that is to be applied to wooden marine decks and their appurtenances and is specified and used exclusively for the marine environment.
- (419) MODIFIED BITUMINOUS PRIMER consist of bituminous materials, and a high flash solvent used to prepare a surface by (1) improving the adhesion and (2) absorbing dust from the surface for adhesive, or flashing cement bitumen membrane.
- (4250) MODIFIED BITUMINOUS MATERIALS are materials obtained from natural deposits of asphalt or residues from the distillation of crude oil petroleum or coal which consist mainly of hydrocarbons, and include, but are not limited to, asphalt, tar, pitch, and asphalt tile that are soluble in carbon disulfide.
- (4351) MULTI-PURPOSE CONSTRUCTION ADHESIVE is any adhesive to be used for the installation or repair of various construction materials, including, but not limited to, drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile, and acoustical tile.
- (52) NON-STAINING PLUMBING PUTTY is a non-staining sealant formulated for use on natural surface materials that remains flexible and creates a waterproof seal when setting plumbing fixtures.
- ~~(44) NONMEMBRANE ROOF ADHESIVE is any adhesive to be used for the installation or repair of nonmembrane roofs. This category includes plastic or asphalt roof cement, asphalt roof coatings, and cold application cement.~~
- ~~(45) NONMEMBRANE ROOF SEALANT is any sealant to be used for installation or repair of nonmembrane roofs. This category includes plastic or asphalt roof cement, asphalt roof coatings, and cold application cement.~~
- ~~(46) ORTHOTICS AND PROSTHETICS are medical devices designed and fabricated to address human neuromuscular and structural skeletal problems in order to activate, supplement, or replace weakened, atrophied, or missing limbs.~~
- (4753) OUTDOOR CARPET FLOOR COVERING ADHESIVE is an adhesive used during the installation of carpet or floor covering that is not in an enclosure and is exposed to ambient weather conditions during normal use.
- (4854) OZONE-DEPLETING COMPOUND is as defined in Rule 102.
- (55) PANEL ADHESIVE is an adhesive used for the installation of plywood, pre-decorated hardboard (or tileboard), ~~fiberglass reinforced plastic~~ FRP, and similar pre-decorated or non-decorated panels to studs or solid surfaces.

Rule 1168 (Cont.) (Amended January 7, 2005 Proposed Amended Rule 1168 October 2017)

(4956) PERCENT VOC BY WEIGHT is the ratio of the weight of the VOC to the weight of the material, expressed as a percentage of VOC by weight. The percent VOC by weight can be calculated as follows:

$$\% \text{ VOC weight} = \frac{W_v}{W} \times 100$$

Where: W_v = weight of the VOCs, in grams

W = weight of material, in grams

(5057) PERSON is ~~any individual, firm, association, organization, partnership, business, trust, corporation, company, contractor, supplier, installer, user or owner, or any state or local governmental agency or public district or any other officer or employee thereof. Person also means the United States or its agencies to the extent authorized by Federal law~~ as defined in Rule 102.

(58) PLASTIC ADHESIVE PRIMER is a material applied to CPVC and PVC plastic that to prepare joining surfaces for the application of CPVC or PVC welding cements meets the specifications of ASTM F656 Standard Specification for Primers for Use in Solvent Cement Joints of Poly(Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

(5159) PLASTIC CEMENT-WELDING CEMENT is the use of adhesives made of resins and solvents which are used to dissolve the surfaces of plastic, except ABS, CPVC, and PVC plastic, to form a bond between mating surfaces.

(5260) PLASTIC FOAM is a foam constructed of plastics.

(5361) PLASTICS are synthetic materials chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders, and/or reinforcers. They are capable of being molded, extruded, cast into various shapes and films, or drawn into filaments and are used to produce pipe, solid sheet, film, or bulk products.

(5462) POLYCARBONATE is a thermoplastic resin derived from bisphenol A and phosgene, a linear polyester of carbonic acid, dihydroxy compound and any carbonate diester, or by ester interchange.

(5563) POLYETHYLENE TEREPHTHALATE (PET, PETE) is a thermoplastic polyester formed from ethylene glycol by direct esterification or by catalyzed ester exchange between ethylene glycol and dimethyl terephthalate.

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- (5664) POLYETHYLENE TEREPHTHALATE GLYCOL (PETG) is a glycol modified polyethylene terephthalate.
- ~~(57) POLYURETHANE FOAMS are plastic foams, as defined in "Whittington's Dictionary of Plastics," page 329, and may be either rigid or flexible.~~
- (5865) POLYVINYL CHLORIDE (PVC) plastic is a polymer of the chlorinated vinyl chloride monomer that contains 57 percent chlorine.
- (5966) POROUS MATERIAL is a substance which has tiny openings, often microscopic, in which fluids may be absorbed or discharged. Such materials include, but are not limited to, wood, fabric, paper, corrugated paperboard, and plastic foam.
- (67) POTABLE WATER ARCHITECTURAL SEALANT is a sealant used in water treatment or water distribution applications required to comply with NSF/ANSI Standard 61: Drinking Water System Components – Health Effects.
- (68) PRESSURE SENSITIVE ADHESIVE is an adhesive, typically coated on backings or release liners that forms a bond when pressure is applied, without the need for solvent, water, or heat.
- (69) PRIVATE LABELER is the person, company, firm, or establishment (other than the toll manufacturer) identified on the label of a regulated product.
- (70) PUMP SPRAY is a packaging system in which the product ingredients within the container are not under pressure and in which the product is expelled only while a pumping action is applied to a button, trigger, or other actuator.
- ~~(60) PRIMER is a material applied to a substrate to improve adhesion of subsequently applied adhesive.~~
- ~~(61) PROPELLANT is a fluid under pressure which expels the contents of a container when a valve is opened.~~
- (71) PVC WELDING CEMENT is a Plastic Welding Cement that is used to join PVC pipe, fittings, and other system components, including, but not limited to, components for shower pan liner, drain, closet flange, and backwater valve systems.
- (72) QUANTITY AND EMISSIONS REPORT (QER) is the report specified in subparagraph (f)(2).
- ~~(627273) REACTIVE DILUENT PRODUCTS are regulated products composed, in part, of monomers that become integral parts of the cured~~

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

~~product through chemical reaction is a liquid which is a VOC during application and one in which, through chemical and/or physical reactions, such as polymerization, 20 percent or more of the VOC becomes an integral part of a finished.~~ Reactive Products include, but are not limited to, polyurethane and two-component regulated products.

(7374) REGULATED PRODUCT is an adhesive, adhesive primer, sealant, or sealant primer subject to this rule.

(7475) REINFORCED PLASTIC COMPOSITE is a composite material consisting of plastic reinforced with fibers.

(637576) REPAIR is an operation or activity to return a damaged object or an object not operating properly, to good condition.

(7677) ROADWAY SEALANT is any sealant to be applied to ~~public~~ streets, highways, and other surfaces, including, but not limited to, curbs, berms, driveways, and parking lots.

(647778) ROLL COATER is a series of mechanical rollers that form a thin coating or adhesive film on the surface roller, which is applied to a substrate by moving the substrate underneath the roller.

(7879) RUBBER is any natural or manmade rubber-like substrate, ~~and including,~~ but is not limited to, styrene-butadiene, polychloroprene (neoprene), butyl, nitrile, chlorosulfonated polyethylene, and ethylene propylene diene terpolymer.

(657980) RUBBER FLOORING ADHESIVE is an adhesive that is used for the installation of flooring material in which both the back and ~~the~~ top surfaces are made of synthetic rubber, and which may be in sheet or tile form.

(8081) RUBBER VULCANIZATION ADHESIVE is a reactive adhesive used for rubber-to-substrate bonding achieved during vulcanization of the rubber elastomer at temperatures greater than 250°F. Vulcanized rubber adhesive does not include bonding previously vulcanized rubber.

~~(66) RUBBER FOAM is a foam constructed of natural or synthetic rubber.~~

(678182) SEALANT is any material with adhesive properties that is ~~formulated primarily designed~~ to fill, seal, ~~or~~ waterproof, or weatherproof gaps or joints between two surfaces. Sealants include sealant primers and caulks.

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

- (~~688283~~) SEALANT PRIMER is any film-forming product applied to a substrate, prior to the application of a sealant, to enhance the bonding surface.
- (~~698384~~) SHOE REPAIR, LUGGAGE AND HANDBAG ADHESIVE is an adhesive used to repair worn, torn, or otherwise damaged uppers, soles, and heels of shoes, or for making repairs to luggage and handbags.
- (~~70~~) ~~SHEET APPLIED RUBBER LINING OPERATION~~ is the hand application of sheet rubber lining to metal or plastic substrates in order to protect the underlying substrate from corrosion or abrasion. ~~These operations also include laminating sheet rubber to fabric.~~
- (~~718485~~) SINGLE-PLY ROOF MEMBRANE ADHESIVE is any adhesive sealant to be used for the installation or repair of single-ply roof membrane. Installation includes, but is not limited to, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes, or ducts that protrude through the membrane.
- (~~728586~~) SINGLE-PLY ROOF MEMBRANE SEALANT is any sealant to be used for the installation or repair of single-ply roof membrane to the edge of the roof and applying flashings to vents, pipes, or ducts that protrude through the membrane.
- (~~738687~~) SOLVENT WELDING is the softening of the surfaces of two substrates by wetting them with solvents and/or adhesives, and joining them together through a chemical and/or physical reaction(s) to form a fused union.
- (~~74~~) ~~SPACE VEHICLE~~ is a vehicle designed to travel beyond Earth's atmosphere.
- (~~758788~~) SPECIAL PURPOSE CONTACT ADHESIVE is a contact adhesive that is used to bond all of the following substrates to any surface: melamine covered board, metal, unsupported vinyl, Teflon, ultra-high molecular weight polyethylene, rubber, and wood veneer 1/16 inch or less in thickness.
- (~~768889~~) STRUCTURAL GLAZING ADHESIVE is any adhesive to be used to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.
- (~~778990~~) STRUCTURAL WOOD MEMBER ADHESIVE is an adhesive used for the construction of any load bearing joints in wooden joists, trusses, or beams.

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

- (~~789091~~) SUBFLOOR ADHESIVE is an adhesive used for the installation of subflooring material over floor joists.
- (~~799192~~) THIN METAL LAMINATING ADHESIVE is an adhesive for ~~process of~~ bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) is less than 0.25 mil.
- (~~809293~~) TIRE REPAIR is the expanding of a hole, tear, fissure, or blemish in a tire casing by grinding or gouging, applying adhesive, and filling the hole or crevice with rubber.
- (~~819394~~) TIRE RETREAD ADHESIVE is any adhesive to be applied to the back of precured tread rubber and to the casing and cushion rubber, or to be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.
- (~~9495~~) TOLL MANUFACTURER is a regulated product manufacturer who produces regulated product for a private labeler.
- (~~829596~~) TOP AND TRIM ADHESIVE is an adhesive used during the installation of automotive and marine trim, including, but not limited to, headliners, vinyl tops, vinyl trim, sunroofs, dash covering, door covering, floor covering, panel covering, and upholstery.
- (~~9697~~) TOXIC AIR CONTAMINANT (TAC) is an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health as listed by the Office of Environmental Health Hazard Assessment.
- (~~839798~~) TRAFFIC MARKING TAPE is preformed reflective tape that is to be applied to public streets, highways, and other surfaces, including, but not limited to, curbs, berms, driveways, and parking lots.
- (~~849899~~) TRAFFIC MARKING TAPE ADHESIVE PRIMER is any adhesive primer ~~to be~~ that is applied to surfaces prior to installation of traffic marking tape.
- (~~8599100~~) TRANSFER EFFICIENCY is the ratio of the weight or volume of the regulated coating product solids adhering to an object to the total weight or volume, respectively, of the regulated coating product solids used dispensed in the application process, expressed as a percentage.
- (~~86100101~~) VINYL COMPOSITIONS TILE (VCT) ~~means vinyl composition tile and~~ is a material made from thermoplastic resins, fillers, and pigments.

Rule 1168 (Cont.) (Amended January 7, 2005 Proposed Amended Rule 1168 October 2017)

~~(404102)~~ VEHICLE GLASS ADHESIVE PRIMER is a primer applied to vehicle glass or to the frame of a vehicle prior to installation or repair of the vehicle glass using an adhesive or sealant to improve adhesion to the pinch weld. For the purposes of this definition, a vehicle is a mobile machine that transports passengers or cargo, and includes, but is not limited to, automobiles, trucks, buses, motorcycles, trains, ships, and boats.

~~(87)~~—VISCOSITY is the internal friction of a liquid that makes it resistant to flow.

~~(88402103)~~ VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102—Definition of Terms.

~~(403104)~~ WATERPROOF RESORCINOL GLUE is a two-part, resorcinol-resin-based adhesive used in applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

~~(89404105)~~ WOOD FLOORING ADHESIVE is an adhesive used to install a wood floor surface, which may be in the form of parquet tiles, wood planks, or strip-wood.

~~(90)~~—WOOD PARQUET FLOORING is wood flooring in tile form constructed of smaller pieces of wood which are joined together in a pattern by the maker to form the tile.

~~(91)~~—WOOD PLANK FLOORING is solid or laminated wood in plank form.

(c) Requirements

~~(1)~~—Unless otherwise specified in paragraph (c)(2), a person shall not apply any adhesives, adhesive bonding primers, adhesive primers, or any other primer, which have a VOC content in excess of 250 g/L less water and less exempt compounds.

~~(21)~~ A person shall not ~~apply, use, sell, store, supply, distribute, offer for sale, or manufacture~~ regulated products adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primer, subject to the provisions of this rule, which have a contain VOC content in excess of the limits specified in Table 1 below:

VOC Limit*, Less Water and Less Exempt Compounds in Grams per Liter

Architectural Applications	Current VOC Limit
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50

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Outdoor Carpet Adhesives	150
Wood Flooring Adhesive	100
Rubber Floor Adhesives	60
Subfloor Adhesives	50
Ceramic Tile Adhesives	65
VCT and Asphalt Tile Adhesives	50
Dry Wall and Panel Adhesives	50
Architectural Applications	Current VOC Limit
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Single Ply Roof Membrane Adhesives	250

Specialty Applications	VOC LIMITS AND EFFECTIVE DATES**			
	Current VOC Limit	1-1-05	7-1-05	1-1-07
PVC Welding	510			
CPVC Welding	490			
ABS Welding	400		325	
Plastic Cement Welding	350	250		
Adhesive Primer for Plastic	650		550	
Computer Diskette Manufacturing	350			
Contact Adhesive	80			
Special Purpose Contact Adhesive	250			
Tire Retread	100			
Adhesive Primer for Traffic Marking Tape	150			
Structural Wood Member Adhesive	140			
Sheet Applied Rubber Lining Operations	850			
Top and Trim Adhesive	540			250

** The specified limits remain in effect unless revised limits are listed in subsequent columns.

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For adhesives, adhesive bonding primers, or any other primer not regulated by the above two tables and applied to the following substrates, the following limits shall apply:

Substrate Specific Applications	Current VOC Limit
Metal to Metal	30
Plastic Foams	50
Porous Material (except wood)	50
Wood	30
Fiberglass	80

If an adhesive is used to bond dissimilar substrates together the adhesive with the highest VOC content shall be allowed.

Sealants	Current VOC Limit
Architectural	250
Marine Deck	760
Nonmembrane Roof	300
Roadway	250
Single Ply Roof Membrane	450
Other	420

Sealant Primers	Current VOC Limit
Architectural	
Non Porous	250
Porous	775
Modified Bituminous	500
Marine Deck	760
Other	750

* For low solid adhesives or sealants the VOC limit is expressed in grams per liter of material as determined in paragraph (b)(32); for all other adhesives and sealants, VOC limits are expressed as grams of VOC per liter of adhesive or sealant less water and less exempt compounds as determined in paragraph (b)(31).

Table 1 – Regulated Product Categories and VOC Limits

Category	VOC Limits (g/L)¹			
	Current	Upon Adoption	1/1/2019	1/1/2023
Adhesives				
<u>Architectural Applications</u>				
<u>Building Envelope Membrane Adhesive</u>	250			

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<u>Category</u>	<u>VOC Limits (g/L)¹</u>			
	<u>Current</u>	<u>Upon Adoption</u>	<u>1/1/2019</u>	<u>1/1/2023</u>
<u>Carpet Pad Adhesive</u>	<u>50</u>			
<u>Ceramic Glass, Porcelain, & Stone Tile Adhesive</u>	<u>65</u>			
<u>Cove Base Adhesive</u>	<u>50</u>			
<u>Dry Wall and Panel Adhesive</u>	<u>50</u>			
<u>Multi-Purpose Construction Adhesives</u>	<u>70</u>			
<u>Roofing</u>				
<u>Single Ply Roof Membrane Adhesive</u>	<u>250</u>			<u>200²</u>
<u>All Other Roof Adhesives</u>	<u>250</u>			<u>200²</u>
<u>Rubber Floor Adhesive</u>	<u>60</u>			
<u>Structural Glazing Adhesive</u>	<u>100</u>			
<u>Structural Wood Member Adhesive</u>	<u>140</u>			
<u>Subfloor Adhesive</u>	<u>50</u>			
<u>VCT and Asphalt Tile Adhesive</u>	<u>50</u>			
<u>Wood Flooring Adhesive</u>	<u>100</u>			<u>20</u>
<u>All Other Indoor Floor Covering Adhesives</u>	<u>50</u>			
<u>All Other Outdoor Floor Covering Adhesives</u>	<u>150</u>		<u>50</u>	
<u>Computer Diskette Manufacturing Adhesive</u>	<u>350</u>			
<u>Contact Adhesive</u>	<u>80</u>			
<u>Edge Glue Adhesive</u>	<u>250</u>			
<u>Plastic Welding Cement</u>				
<u>ABS Welding Cement</u>	<u>325</u>			
<u>ABS to PVC Transition Cement</u>	<u>510</u>			<u>3425²</u>
<u>CPVC Welding Cement</u>	<u>490</u>			<u>400²</u>
<u>PVC Welding Cement</u>	<u>510</u>			<u>425²</u>
<u>All Other Plastic Welding Cements</u>	<u>250</u>		<u>100</u>	
<u>Rubber Vulcanization Adhesive</u>	<u>250</u>	<u>850</u>		<u>250</u>
<u>Special Purpose Contact Adhesive</u>	<u>250</u>			
<u>Thin Metal Laminating Adhesive</u>	<u>780</u>			
<u>Tire Tread Adhesive</u>	<u>100</u>			
<u>Top and Trim Adhesive</u>	<u>250</u>	<u>540</u>		<u>250²</u>
<u>Waterproof Resorcinol Glue</u>	<u>250</u>		<u>170</u>	
<u>All Other Adhesives</u>	<u>250</u>			

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<u>Category</u>	<u>VOC Limits (g/L)¹</u>			
	<u>Current</u>	<u>Upon Adoption</u>	<u>1/1/2019</u>	<u>1/1/2023</u>
<u>Substrate Specific Adhesives</u>				
<u>Metal</u>	<u>30</u>			
<u>Plastic Foams</u>	<u>50</u>			
<u>Porous Material (except wood)</u>	<u>50</u>			
<u>Wood</u>	<u>30</u>			
<u>Fiberglass</u>	<u>80</u>			
<u>Reinforced Plastic Composite</u>	<u>250</u>		<u>200</u>	
<u>Sealants</u>				
<u>Architectural Applications</u>				
<u>Clear, Paintable, and Immediately Water-Resistant Sealant</u>	<u>250</u>	<u>380</u>		<u>250</u>
<u>Foam Insulation</u>	<u>250</u>			<u>50³</u>
<u>Foam Sealant</u>	<u>250</u>			<u>50³</u>
<u>Grout</u>	<u>250</u>	<u>65</u>		
<u>Insulating Foam Sealant</u>	<u>250</u>	<u>50</u>		
<u>Roadway Sealant</u>	<u>250</u>			
<u>Non-Staining Plumbing Putty</u>	<u>250</u>	<u>150</u>		<u>50</u>
<u>Potable Water Sealant</u>	<u>250</u>	<u>100</u>		
<u>Roofing</u>				
<u>Single Ply Roof Membrane Sealant</u>	<u>450</u>			<u>250²</u>
<u>All Other Roof Sealants</u>	<u>300</u>			<u>250²</u>
<u>All Other Architectural Sealants</u>	<u>250</u>		<u>50</u>	
<u>Marine Deck Sealant</u>	<u>760</u>			
<u>All Other Sealants</u>	<u>420</u>			<u>250</u>
<u>Adhesive Primers</u>				
<u>Plastic</u>	<u>550</u>			
<u>Pressure Sensitive</u>	<u>250</u>	<u>785</u>		
<u>Traffic Marking Tape</u>	<u>150</u>			
<u>Vehicle Glass</u>	<u>250</u>	<u>700</u>		
<u>All Other Adhesive Primers</u>	<u>250</u>			
<u>Sealant Primers</u>				
<u>Architectural Applications</u>				
<u>Non Porous</u>	<u>250</u>			
<u>Porous</u>	<u>775</u>			
<u>Marine Deck</u>	<u>760</u>			
<u>Modified Bituminous</u>	<u>500</u>			
<u>All Other Sealant Primers</u>	<u>750</u>			

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1. ~~For low solid adhesives or sealants the VOC limit is expressed in grams per liter of material as determined in paragraph (b)(32); for all other adhesives and sealants, VOC limits are expressed as grams of VOC per liter of adhesive or sealant regulated product, less water and less exempt compounds, as determined defined in paragraph (b)(3637) except for low-solid regulated products where the VOC limit is expressed in grams per liter of material as defined in paragraph (b)(3738).~~
2. Technology assessment will be conducted in 2022 and the Executive Officer shall report on the results of the technology assessment to the Stationary Source Committee prior to the implementation date.
3. Technology assessment will be conducted in 2020 and the Executive Officer shall report on the results of the technology assessment to the Stationary Source Committee prior to the implementation date.

(32) Regulated Product Categorization

- (A) Adhesives not regulated by a specific adhesive category, shall be limited to the VOC limits listed under the Substrate Specific Adhesive category in Table 1, if anywhere on the regulated product container, on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the regulated product may be used, or is suitable for use, on that substrate. If the adhesive is used to bond dissimilar substrates together, the higher Substrate Specific Adhesive VOC limit shall apply.
- (B) If anywhere on the regulated product container, on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the regulated product may be used, or is suitable for use, as a regulated product for which a VOC standard in a specific category is specified in Table 1, then the lowest VOC standard shall apply. This provision does not apply to Substrate Specific Adhesives.

(3) Sell-Through Provision

Any regulated product that is manufactured prior to the effective date of the applicable limit specified in Table 1 and that has a VOC content above that limit (but not above the limit in effect on the date of manufacture), may be used, sold, supplied, or offered for sale for up to three years after the specified effective date.

- (4) ~~Containers used to dispose of VOC laden cloth or paper used in stripping cured adhesives or sealants shall be closed containers except when depositing or removing the contents of VOC laden cloth or paper from the container.~~ All regulated product containers shall be closed when not in use.

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Any VOC-laden application tools, such as a brush, pad, rag, cloth, or paper, used in the regulated product application, shall be stored and disposed of in closed containers when not in use.

~~(4) Solvent Cleaning Operations; storage and disposal of VOC containing materials shall be conducted in accordance with the provisions of Rule 1171 - Solvent Cleaning Operations.~~

(5) Solvent cleaning of application equipment, parts, products, tools, machinery, equipment, general work areas, and the storage and disposal of VOC-containing materials, used in cleaning operations shall be carried out conducted pursuant to Rule 1171 - Solvent Cleaning Operations.

~~(65) Transfer Efficiency~~

~~A person shall not apply VOC-containing regulated adhesives or sealants product unless the adhesive or sealant regulated product is applied with properly operating equipment in accordance with operating procedures specified by either the equipment manufacturer or the Executive Officer. Application of adhesives or sealants shall be accomplished only by the use of one of the following methods:~~

~~(A) Electrostatic application; or~~

~~(B) Flow coat; or~~

~~(C) Dip coat; or~~

~~(D) Roll coater; or~~

~~(E) High-Volume, Low-Pressure (HVLP) spray; or~~

~~(F) Hand application methods; or~~

~~(G) Such other adhesive or sealant application methods as are demonstrated to the Executive Officer to be capable of achieving at least 65 percent transfer efficiency a transfer efficiency equivalent to or better than the method listed in subparagraph (c)(6)(E) and for which prior written approval of the Executive Officer has been obtained; or~~

~~(H) For adhesives and sealants with a viscosity of 200 centipoise or greater, as applied, airless spray, air-assisted airless, and air-atomized spray may also be used.~~

(76) Control Devices

A person may comply with the provisions of paragraphs (c)(1), ~~(e)(2)~~, or (c)(56), or all three both, by using approved air pollution control equipment to apply a regulated product, provided: that the VOC emissions from such

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~~operations and/or materials are reduced by at least 80 percent overall, by weight.~~

(A) The control device reduces VOC emissions from an emission collection system by at least 95 percent by weight or the output of the air pollution control device is no more than 50 ppm VOC by volume calculated as carbon with no dilution; and

(B) The owner/operator demonstrates that the emission collection system collects at least 90 percent by weight of the VOC emissions generated by the sources of VOC emissions.

~~(87)~~ A person may comply with the provisions of paragraph (c)(1) ~~and paragraph (e)(2)~~ by means of an Alternative Emission Control Plan to apply a regulated product pursuant to Rule 108.

~~(8)~~ ~~If anywhere on the container of any adhesive or sealant, on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the adhesive or sealant may be used for any another source specific rule application, for which there is a lower VOC standard, then the lowest VOC standard shall apply.~~

(9) The VOC content of regulated adhesives and sealants ~~products~~ that are applied with the use of refillable pressurized ~~containers~~ spray system are subject to the VOC limits of this rule.

(10) Except as provided in subdivision (i) and paragraphs (c)(3), (c)(7), and (c)(8), a person shall not store regulated products which contain VOC in excess of the limits specified in paragraph (c)(1).

(11) Containers used for mixing VOC-containing regulated products shall be kept closed at all times except when in use or when product is being added or removed.

(d) Recordkeeping Requirements

~~Notwithstanding provisions of subdivision (i), records~~ Records of regulated product usage shall be maintained pursuant to Rule 109.

(e) ~~Methods of Analysis~~ Test Methods

(1) The VOC content of ~~cleaning materials and~~ regulated adhesives or sealants ~~products~~ shall be determined by the South Coast Air Quality Management District (SCAQMD) using the applicable test methods below. When a test method specifies it is inapplicable to a product category, it shall

not be used for that inapplicable category. The Executive Officer will develop a Guidance Document to determine which test method will be used. When two or more applicable test methods can be used to demonstrate compliance with the rule, the Executive Officer will determine which The selected test method will be used based on product type, chemistry, and VOC content.

- (A) ~~using~~ VOC content may be determined by USEPA Reference Method 24 (Determination of Volatile ~~matter~~ Matter Content, Water Content, Density Volume Solids, and Weight Solids of Surface Coating, Code of Federal Regulations Title 40, Appendix A, utilizing Procedure B of ASTM Method D2369), ~~or the~~
- (B) ~~SCAQMD~~ VOC content may be determined by Method 304 (Determination of Volatile Organic Compounds (VOC) in Various Materials) in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples" manual.
- (C) Exempt compound content shall be determined by Method 303 in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples" or ASTM Method D4457.
- (D) VOC content may be determined by Method 313 (Determination of Volatile Organic Compounds VOC by Gas Chromatography-Mass Spectrometry) in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples" manual.
- (E) VOC content may be determined by ASTM Test Method 6886 (Standard Test Method for Determination of the Weight Percent Individual Volatile Organic Compounds in Waterborne Air-Dry Coatings by Gas Chromatography).
- (F) The VOC content of PVC, CPVC, ABS, ABS to PVC Transition Welding Cements, and plastic adhesive primers shall be determined by Method 316A in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples."
- (G) The VOC content of cyanoacrylate adhesives shall be determined by Method 316B in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples."
- (H) The VOC content of reactive adhesives may be determined by Appendix A to Subpart PPPP of 40 CFR Part 63—Determination of

Weight Volatile Matter Content and Weight Solids Content of Reactive Adhesives.

- ~~(2) The exempt compound's content shall be determined by Methods 302 and 303 in the South Coast Air Quality Management District's (SCAQMD) "Laboratory Methods of Analysis for Enforcement Samples" or ASTM Method D4457-85.~~
- ~~(3) The VOC content of PVC, CPVC, and ABS pipe cements, adhesive primer for plastic shall be determined by Method 316A in the South Coast Air Quality Management District's (SCAQMD) "Laboratory Methods of Analysis for Enforcement Samples." (4) The VOC content of cyanoacrylate adhesives shall be determined by Method 316B in the South Coast Air Quality Management District's (SCAQMD) "Laboratory Methods of Analysis for Enforcement Samples."~~

~~(f) Test Methods~~

- ~~(12) The efficiency of the control device and the VOC content measured and calculated as carbon in the control device exhaust gases shall be determined by USEPA'S Test Method 18, or Air Resources Board (CARB) Method 422 for the determination of emissions of Exempt Compounds and USEPA's Test Methods 25, 25A, SCAQMD's Method 25.1, or SCAQMD Test Method 25.3. (Determination of Total Gaseous Non-Methane Organic Emissions as Carbon) for the determination of total organic compound emissions. Emissions determined to exceed any limits established by this rule through the use of any of the above-referenced test methods shall constitute a violation of the rule.~~
- ~~(23) Viscosity will shall be determined by ASTM D 1084-88 Standard Test Methods for Viscosity of Adhesives.~~
- ~~(34) The following classes of compounds: cyclic, branched, or linear, completely fluorinated alkanes; cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine, will be analyzed as exempt compounds for compliance with subdivision (c), only at such time as manufacturers specify which individual compounds are used in the coating-regulated product formulations and identify the test methods, which, prior to such analysis,~~

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have been approved by the USEPA and the SCAQMD, that can be used to quantify the amounts of each exempt compound.

(5) Equivalent Test Methods

Other test methods determined to be equivalent after review by the Executive Officer, CARB, and the U.S. USEPA, and approved in writing by the District Executive Officer, may also be used.

(6) All test methods referenced in this subdivision shall be the version most recently approved by the appropriate governmental entities.

~~(g) Prohibition of Specifications~~

~~(1) A person shall not solicit or require any other person to use, in the District, any adhesives or sealants or combination of adhesives or sealants in violation of the requirements of this rule.~~

~~(2) The requirements of this paragraph shall apply to all written or oral agreements executed or entered into after July 1, 1989.~~

(f) Administrative Requirements

(1) Regulated products manufactured after January 1, 2019, shall display the following:

(A) Each container shall display the VOC content of the regulated product, as recommended for application. VOC content shall be displayed as grams of VOC per liter of regulated product, excluding water and exempt compounds, or grams of VOC per liter of material for low-solids products. The VOC content shall be determined by calculation based on product formulation or laboratory analysis using the applicable test method in subdivision (e).

(i) Regulated products subject to both the provisions of this rule and the ~~CARB~~ Consumer Products Regulation may display the VOC content as percent VOC provided the regulated product has supplemental product documentation published from the manufacturer that displays the VOC content in grams of VOC per liter of regulated product.

(B) Each container or an associated product data sheet shall display a statement of the manufacturer's recommendations regarding thinning, reducing, or mixing with any other VOC containing

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material, if applicable. Mixing recommendations shall specify a ratio which results in a compliant, as applied, product.

- (C) Each container shall display the date of manufacture of the contents or a date code indicating the date of manufacture. A manufacturer utilizing a date code shall file ~~with the Executive Officer of the District~~ an explanation of each date code with the District Executive Officer.
- (D) Each container of all Top and Trim Adhesives shall include the statement “For Top and Trim Uses Only” prominently displayed.
- (E) Each container of all Rubber Vulcanization Adhesives shall include the statement “For Rubber Vulcanization Adhesive Uses Only” prominently displayed.
- (F) Each container of all Pressure Sensitive Adhesive Primers shall include the statement “For Pressure Sensitive Adhesive Primer Uses Only” prominently displayed.
- (G) Each container of all ABS to PVC Transition Cements shall include the statement “For ABS to PVC Transition Uses Only” prominently displayed.

(2) Reporting Requirements

(A) Reporting Timeline

A Quantity and Emission Report (QER) shall be submitted according to the reporting timeline identified in Table 2 below:

- (i) Every three years, from the years 2019 to 2025.
- (ii) Every five years, thereafter, until and including 2040.

Table 2: Reporting Timeline

<u>Reporting Deadlines</u>		<u>Reported Years</u>
<u>Manufacturers & Private Labelers</u>	<u>Big Box Retailers & Distribution Centers</u>	
<u>September 1, 2019</u>	<u>May 1, 2019</u>	<u>2017, 2018</u>
<u>September 1, 2022</u>	<u>May1, 2022</u>	<u>2020, 2021</u>
<u>September 1, 2025</u>	<u>May 1, 2025</u>	<u>2023, 2024</u>
<u>September 1, 2030</u>	<u>May 1, 2030</u>	<u>2028, 2029</u>
<u>September 1, 2035</u>	<u>May 1, 2035</u>	<u>2033, 2034</u>
<u>September 1, 2040</u>	<u>May 1, 2040</u>	<u>2038, 2039</u>

(B) General QER

A manufacturer or private labeler of regulated products shall submit to the District a QER of regulated product sales into or within the District according to the schedule in Table 2. The report shall include the following information:

- (i) Product manufacturer (as listed on the label);
- (ii) Product name and code;
- (iii) Applicable Rule 1168 category;
- (iv) The grams of VOC per liter of regulated product (less water and exempt solvents);
- (v) The grams of VOC per liter of material;
- (vi) Whether the product is waterborne or solvent-based;
- (vii) Total annual volume sold into or within the District, including products sold through distribution centers located within or outside the District, reported in gallons for all container sizes;
- (viii) For any regulated product with VOC content higher than the applicable limit in Rule 1168, an indication whether the product has been sold under any of the following provision of this rule:
 - (A) Sell-through provision;
 - (B) Low-Solids Pproduct;
 - (C) Exempted under subdivision (i);
 - (D) Complying with subparagraph (c)(7) – Control Device ; or
 - (E) Complying with subparagraph (c)(8) - Alternative Emission Control.

(C) Aerosol QER

The manufacturer or private labeler of aerosol adhesives and aerosol adhesive primers shall submit to the District a QER of aerosol adhesive and aerosol adhesive primer sales into or within the District according to the schedule in Table 2. The report shall include the following information:

- (i) Product manufacturer (as listed on the label);
- (ii) Product name and code;

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- (iii) Percent VOC by weight;
 - (iv) Total weight sold, including products sold through distribution centers located within or outside the District; and
 - (v) Container size of product.
- (D) A corporate officer of the manufacturer or private labeler of regulated products, who previously reported under (f)(2)(B) and (f)(2)(C), that had no distribution or sales into or within the District for the specified reporting years in Table 2, must certify that fact in a letter and on company letterhead by the reporting deadline specified in Table 2.
 - (i) A manufacturer or private labeler of regulated products that has no intention to sell regulated products into or within the District in future years, must indicate that fact to be removed from future outreach efforts.
 - (ii) A manufacturer or private labeler of regulated products who resumes sales of regulated product into or within the District, must adhere to the reporting requirements specified in (f)(2)(B) and (f)(2)(C).
- (E) Big Box Retailer or Distribution Center QER

A big box retailer or distribution center shall submit a QER to the regulated product manufacturer or private labeler, according to the schedule in Table 2. The QER must be electronically submitted, in a spreadsheet format and certified that all information reported is true and correct. The QER must contain the following information:

 - (i) The manufacturer or private labeler's product name and code; and
 - (ii) The quantity of each regulated product, aerosol adhesive, and aerosol adhesive primer distributed into the District.
- (F) Facilities Using the 55 Gallon Exemption

For each calendar year (January 1 through December 31) beginning in 2017, the facility using or purchasing regulated products under the provisions of paragraph (i)(7)(5)(C) shall submit to the District by September 1 of the following calendar year, an annual report of regulated product used under the provisions of paragraph

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(i)(7)(5)(C) within the District. The report shall include the following information:

- (i) Product manufacturer (as listed on the label);
- (ii) Product name and code;
- (iii) The grams of VOC per liter of regulated product (less water and exempt solvents);
- (iv) The grams of VOC per liter of material;
- (v) Unit size of product;
- (vi) Total volume purchased, in gallons;
- (vii) The name and address of the company or retailer where the products were purchased.

(3) Manufacturers, private labelers, or suppliers of regulated products shall maintain records to verify data used to determine VOC content in preparing their QER. The records shall be maintained for three (3) years and made available upon request by the Executive Officer. Such records shall include:

- (A) Laboratory reports; or
- (B) Formulation data used for VOC content calculations.

(4) Confidentiality of Information

Subject to the provisions of the California Public Records Act (Gov Code §§ 6250-6276.48) information submitted to the Executive Officer may be designated as confidential. The designation must be clearly indicated on the reporting form, identifying exactly which information is deemed confidential. District guidelines require a detailed and complete basis for such claim in the event of a public records request.

(hg) Prohibition of Sales and Use

(1) — On and after September 1, 2001, except ~~Except as provided in subdivision (ji),) and paragraphs (e)(3), (e)(67), and (e)(78)~~ no person shall use, supply, sell, or offer for sale an adhesive, sealant, or adhesive or sealant primer for use ~~a regulated product in the District that at the time of sale exceeds the applicable VOC limits specified in paragraphs (e)(1) and (e)(2).~~

(2) — On and after ~~January 1, 2004~~ Except as provided in subdivision (i), no person shall use, supply, sell, or offer for sale ~~an adhesive, sealant, or adhesive or sealant primer for use~~ a regulated product in the District that contains chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene.

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~~(32)~~ The prohibition of sales and use as specified in paragraphs (h)(1) and (h)(2) shall not apply to the following: On and after January 1, 2019, except as provided in subdivision (i), no person shall use, supply, sell, or offer for sale a regulated product in the District that contains Group II exempt compounds listed in Rule 102 in quantities greater than 0.1 percent by weight. This provision does not apply to cyclic, branched, or linear, completely methylated siloxanes.

~~(A) — Adhesives and sealants shipped, supplied or sold to persons for use outside the District;~~

~~(B) — Any manufacturer of adhesives or sealants, provided that the manufacturer has complied with the labeling requirements of Rule 443.1—Labeling of Materials Containing Organic Solvents, and the product is not sold directly to a user located in the District, or the product was sold to an independent distributor or a sales outlet located in the District that is not a subsidiary of, or under the control of the manufacturer, and was informed in writing by the manufacturer about the compliance status of the product with Rule 1168;~~

~~(C) — Adhesives and Sealants that contain less than one percent by weight of methylene chloride; or~~

~~(D) — Solvent welding formulations containing methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephthalate glycol plastic fabrications, provided:~~

~~(i) — The concentration of methylene chloride in any solvent welding formulation does not exceed 60 percent by weight; and~~

~~(ii) — The purchase of all solvents welding products does not exceed 20 gallons per calendar year at a single facility, as demonstrated by purchase records and invoices of methylene chloride containing solvent welding formulations. — Such records shall be made available to the Executive Officer or his representative upon request.~~

~~(ih)~~ Rule 442 Applicability

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

Any ~~regulated adhesive, sealant, adhesive or sealant operation, or person, product~~ which is exempt from all or a portion of this rule shall comply with the provisions of Rule 442.

(j) Exemptions

- (1) ~~The provisions of paragraph (c)(1) and paragraph (c)(2) shall not apply to the following:~~ The provisions of this rule shall not apply to:
 - (A) ~~Adhesives used in tire repair; or~~ Adhesives, adhesive primers, sealants, or sealant primers, and associated application processes that are subject to Rule 1124;
 - (B) ~~Adhesives and/or adhesive application processes in compliance with Rules 1104, 1106, 1128, 1130 and 1130.1.;~~ Adhesive tape;
 - (C) Regulated products shipped, supplied, or sold to persons for use outside the District; or
 - (D) Distribution centers that do not ship regulated products into or within the District.
- (2) ~~The provisions of this rule shall not apply to aerospace components that are subject to Rule 1124. The provisions of this rule, except paragraphs (f)(2)(C), shall not apply to aerosol adhesives and primers dispensed from non-refillable aerosol spray systems.~~
- (3) ~~The provisions of paragraph (c)(5) and subdivision (d) shall not be applied to the application of adhesives or sealants that contain less than 20 g/L of VOC per liter of adhesives, less water and less exempt compounds. The provisions of this rule, except paragraphs (g)(21) and (g)(32), shall not apply to:~~
 - (A) Regulated products sold in quantities of one fluid ounce or less;
 - (B) Adhesives used to glue flowers to parade floats;
 - (C) Adhesives used to fabricate orthotics and prosthetics under a medical doctor's prescription; or
 - (D) Shoe repair, luggage, and handbag adhesives.
- (4) ~~The provisions of this rule shall not apply to any facility that uses less than one pint of total adhesives and sealants in any one day so long as the products were purchased prior to September 15, 2000. The provisions of subdivision (c) shall not apply to:~~

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

- (A) Research and development programs and quality assurance labs. Records shall be maintained in accordance with the provisions of subdivision (d) of this rule; or
- (B) Solvent welding operations used in the manufacturing of medical devices.
- (5) ~~The provisions of subdivision (e) shall not apply to research and development programs and quality assurance labs, provided that:~~The provisions of paragraph (c)(1) shall not apply to the following:

 - ~~(A) A record is kept of:~~Adhesives used in tire repair;

 - ~~(i) The date when the adhesives and sealants are used, and the type of application(s); and~~
 - ~~(ii) The amount of adhesives and sealants used and the VOC content of such adhesives and sealants; and~~
 - ~~(iii) The amount of solvents used and VOC content of such solvents; and~~
 - ~~(iv) The manufacturer/suppliers identification and type of material; and~~
 - (B) Such records shall be retained in accordance with the provisions of subdivision (e) of this rule. Adhesives and/or adhesive application processes in compliance with Rules 1104, 1106, 1128, 1130, and 1130.1.;
 - (C) A facility that demonstrates that the total volume of non-compliant products is less than 55 gallons per facility per calendar year. A facility may not use this paragraph to exclude non-compliant adhesives used in architectural applications, contact adhesives, special purpose contact adhesives, and adhesives used on porous substrates. Effective January 1, 2019, a facility may not use this paragraph to exclude non-compliant rubber vulcanization adhesives and top and trim adhesives; or
 - (D) Regulated products used in the field installation and repair of potable water linings and covers at water treatment, storage, or water distribution facilities.
- (6) ~~The provisions of paragraph (c)(1) and paragraph (c)(2) shall not apply to a facility that demonstrates that the total volume of non-compliant adhesives, adhesive primers, adhesive bonding primers, sealants, and sealant primers is less than 55 gallons per facility per rolling 12-month period. On and after~~

Rule 1168 (Cont.) (Amended January 7, 2005 Proposed Amended Rule 1168 October 2017)

~~September 1, 2001, a facility may not use this paragraph to exclude non-compliant adhesives used in architectural applications, contact adhesives, special purpose contact adhesives, and adhesives used on porous substrates. The provisions of paragraph (c)(6) shall not apply to regulated products with a viscosity of 200 centipoise or greater.~~

- (7) ~~The provisions of this rule, except paragraph (h)(2), shall not apply to adhesives used to glue flowers to parade floats. The provisions of subdivision (f) shall not apply to thermoplastic hot melt adhesives or to regulated products offered for sale as a dry mix, containing no polymer, which are ready for use or only mixed with water prior to use, and including, but are not limited to, grouts, cements, and mortars and to thermoplastic hot melt adhesives.~~
- (8) ~~The provisions of subdivision (e) shall not apply to solvent welding operations used in the manufacturing of medical devices. The provisions of subdivisions (c) and (d), shall not apply to regulated products with a VOC content no more than 20 grams per liter, less water and less exempt compounds, or no more than 20 grams per liter material for low-solids regulated products.~~
- (9) ~~The provisions of this rule shall not apply to aerosol adhesives and primers dispensed from aerosol spray cans. Until January 1, 2021, the provision of paragraph (g)(21) and (g)(32) shall not apply to solvent welding formulations containing methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephthalate glycol plastic fabrications, provided:~~
- (A) ~~The concentration of methylene chloride in any solvent welding formulation does not exceed 60 percent by weight; and~~
- (B) ~~The purchase of all solvent welding products does not exceed 20 gallons per calendar year at a single facility, as demonstrated by purchase records and invoices of methylene chloride containing solvent welding formulations. Such records shall be made available to the Executive Officer upon request.~~
- (10) ~~The provisions of paragraph (e)(1) and paragraph (e)(2) shall not apply to any adhesive used exclusively for thin metal laminating operations, provided that the adhesive contains less than 780 grams of VOC per liter of adhesive, less water and less exempt compounds, as applied, and the facility uses a total of three gallons per day or less of these adhesives.~~

Rule 1168 (Cont.) (Amended January 7, 2005) Proposed Amended Rule 1168 October 2017

- (11) ~~The provisions of this rule, except paragraph (h)(2) and subdivision (d), shall not apply to light curable adhesives and sealants with a VOC content no more than 50 grams per liter, less water and less exempt compounds.~~
- (12) ~~The provisions of this rule, except paragraph (h)(2), shall not apply to the use of cyanoacrylate adhesives.~~
- (13) 10 The provisions of this rule shall not apply to adhesives and sealants regulated products, which weigh one pound or less, or consist of 16 fluid ounces or less and subject have VOC content limits in Section 94509(a) of to the California Air Resources Board consumer Consumer products Products regulation Regulation found in Title 17 of the California Code of Regulations, beginning at Section 94507, unless they are:
- (A) Incorporated into or used exclusively in the manufacture or construction of the goods or commodities, and not exempted in paragraph (i)(2); or
- (B) Used in pollution-generating activities that take place at stationary sources (including area sources), excluding maintenance and repair, of the stationary source and not exempted in paragraph (i)(2).
- (14) 11 ~~Until October 1, 2003, the provisions of paragraph (e)(1) and paragraph (e)(2) shall not apply to solvent welding of flexible ductwork, at which time the VOC limit shall be 250 grams per liter, less water and less exempt compounds. As of January 1, 2018, The provisions of subdivision (c)(1) and (g) shall not apply to any manufacturer or supplier of regulated products provided the product was sold to an independent distributor that was informed in writing, including electronic formats, by the manufacturer or supplier, that the regulated product is not to be used in the South Coast Air Quality Management District. Manufacturers utilizing this provision shall maintain notification letters for three (3) years, which shall be made available to the Executive Officer or designee upon request.~~
- (15) ~~A person may sell or apply a non-complying VOC-containing or methylene chloride-containing product for one year after the applicable effective date in paragraph (e)(2) for VOC-containing adhesives and sealants, and for one year after the applicable effective date of paragraph (h)(2) or subparagraph (h)(3)(D) for methylene chloride-containing adhesives and sealants, provided:~~
- (A) ~~The product complies with the previous applicable VOC limit,~~
- (B) ~~The product was manufactured prior to the effective date, and~~

Rule 1168 (Cont.) (~~Amended January 7, 2005~~ Proposed Amended Rule 1168 October 2017)

~~(C) — The date of manufacture or a code indicating that date is clearly displayed on the product.~~

~~(16) — The provisions of this rule, except paragraph (h)(2), shall not apply to adhesives used to fabricate orthotics and prosthetics under a medical doctor's prescription.~~

~~(17) — The provisions of this rule, except paragraph (h)(2), shall not apply to shoe repair, luggage and handbag adhesives.~~

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Staff Report for

PROPOSED AMENDED RULE 1168 – ADHESIVE AND SEALANT APPLICATIONS

Dated: October 2017

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EXECUTIVE SUMMARY

Rule 1168 was adopted in April 1989 to control volatile organic compounds (VOC) emissions from adhesives applications. While the rule has been amended 13 times, the last major VOC reduction was in the September 2000 amendment, although the last rule amendment was in January 2005. The rule currently limits VOC content in 41 categories of adhesives, adhesive primers, sealants, and sealant primers. The rule applies to products used during manufacturing and to products used by consumers that are not regulated by the California Air Resources Board (CARB) in the Consumer Products Regulation (CPR) (1).

According to the 2016 Air Quality Management Plan (AQMP) (2), the 2017 annual average VOC emission inventory for adhesives and sealants is 4.1 tons per day (tpd) of VOC. However, a voluntary survey followed by mandatory sales information requests indicates that the inventory is approximately 10.5 tons per day tpd. The estimate includes foam sealants that are not currently part of the 2016 AQMP inventory. The majority of emissions, more than 98 percent, come from area sources and consumer uses (e.g., architectural uses), which normally do not require permits to operate from the South Coast Air Quality Management District (SCAQMD).

Over the past 17 years since the last major reduction in VOC limits from adhesive and sealant applications, the technology of low-VOC products has improved significantly. In particular, adhesives and sealants used for architectural and construction applications have significantly reduced VOC contents. Much of this progress can be attributed to efforts by adhesive and sealant manufacturers to provide environmentally preferable products such as Leadership in Energy and Environmental Design (LEED) and Green Seal certified products to their customers. Building owners and architects request “green” product use by professional contractors during construction, repair, and maintenance of buildings. Institutional and household consumers also have provided incentives by preferentially purchasing lower-VOC products.

This rule amendment effort began in 2013 and continued into 2014 to clarify the current rule language and assess the feasibility of VOC reductions that would ~~capitalize on~~ reflect the improvement of available technology for several currently regulated categories. During that timeframe, ~~District~~ staff conducted eight working group meetings, drafted six versions of proposed rule language, released a preliminary draft staff report, and surveyed regulated products sales in the SCAQMD. The 2013/2014 proposed rule amendment included technology forcing VOC reductions in several roofing adhesive and sealant categories. Those reductions were expected to be achieved by exempting dimethyl carbonate (DMC) and tertiary Butyl acetate (tBAC) from the definition of a VOC. Due to the toxicity concerns of DMC and tBAC and the uncertainty of the on-site exposure modeling methodologies, the rule amendment process was put on hold. While it was on hold, ~~District~~ staff conducted a toxics symposium in October 2014 and drafted an assessment on tBAC, the “tBAC Assessment White Paper” (3), which was released in ~~October 2016~~ April 2017. The assessment resulted in the ~~Governing Board~~ Stationary Source Committee ~~taking~~ recommending a precautionary approach when considering expanding or including an exemption for any compound with a toxic endpoint.

With the Governing Board’s decision not to allow further VOC exemptions for DMC or tBAC, staff ~~initiated~~ resumed the amendment to Rule 1168 with a more modest proposal on VOC reductions for roofing adhesives and sealants. As part of the 2013/2014 rule development process,

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District staff developed a voluntary survey of regulated product sales in the SCAQMD to improve the emissions inventory and to assess product market share. The survey was designed and conducted with feedback from interested stakeholders and trade associations. Initially, the response was insufficient from most of the industry, resulting in Notices to Comply to collect additional information on products and to establish a current inventory. Based on stakeholder feedback, staff believes there remains significant underreporting in the survey conducted in 2013.

The 2016 AQMP, specifically Control Measure CTS-01 - Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants, includes Rule 1168 as a VOC rule that may be targeted for further VOC emission reductions. Proposed Amended Rule (PAR) 1168 will partially implement CTS-01 and MCS-01 - Application of All Feasible Measures Assessment [All Pollutants].

The purpose of PAR 1168 is to further reduce VOC and toxic air contaminant emissions from adhesives and sealants by relying on improvements in technology during the last 17 years. Staff proposes the following requirements for PAR 1168:

- Revise, delete, and add certain definitions.
- Amend VOC limits for certain adhesives, adhesive primers, sealants, and sealant primers and allow for a three-year sell-through/use-through provision.
- Establish new categories and VOC content limits to reflect technological advances.
- Include a ~~most restrictive~~ clause requiring that products marketed for use under varying categories be subject to the lower VOC limit of the varying categories.
- Prohibit storage of non-compliant regulated products on site unless those regulated products are being stored on site for the purpose of shipment outside of the District.
- Add test methods for VOC content analyses.
- Add requirements for labeling regulated product containers.
- Include reporting requirements for:
 - Manufacturers, private labelers, Big Box retailers, and distribution centers who sell regulated products, aerosol adhesives, and adhesive primers into or within the District; and
 - Facilities that use non-compliant product under the 55 gallons per year exemption (subparagraph (i)(5)(C)).
- Prohibit the use of Group II Exempt Solvents as defined in SCAQMD Rule 102 – Definitions of Terms, except volatile methyl siloxanes.
- Include a technology assessment for the following categories:
 - Foam Sealants
 - Plastic ~~Cement-Welding Cement~~, including ABS to PVC Transition Cement-Welding, CPVC ~~Cement-Welding Cement~~, and PVC ~~Cement-Welding Cement~~
 - Roofing products, including All Other Roof Adhesives, Single-Ply Roof Membrane Adhesives, All Other Roof Sealants, and Single-Ply Roof Membrane Sealants

Final Staff Report

- Top and Trim Adhesives
- Remove, ~~limit~~modify, or add exemptions, including clarifying that consumer products are exempt from the rule if the unit of product, less packaging, weighs one pound or less, or consists of 16 fluid ounces or less, and there is a VOC limit in the CPR; except for the following uses:
 - Products incorporated into or used exclusively in the manufacture of goods or commodities, not exempted in paragraph (i)(2); and
 - Products used in pollution-generating activities that take place at stationary sources (~~including area sources~~), excluding maintenance and repair, not exempted in paragraph (i)(2).
- Retain ~~Include~~ streamlined recordkeeping options for regulated products with VOC content of 20 grams per liter (g/L) or less.
- Retain ~~Exemption for~~ regulated products with a viscosity of 200 centipoise or greater from transfer efficiency requirements.

The estimated rule inventory is 10.5 tpd. The projected emission reductions from the proposed amendments are 1.4 tpd of VOC emissions by 2023.

BACKGROUND

Rule 1168 was adopted in April 1989 to control VOC emissions from adhesive applications. The rule has been amended 13 times, the last amendment was in January 2005. In 1997, several categories were added to the rule, including sealants and sealant primers. In terms of VOC reductions, the last six amendments, dating back to 1998, have been associated with attempts to minimize VOC emissions from Acrylonitrile-Butadiene-Styrene (ABS), Chlorinated Polyvinyl Chloride (CPVC), Polyvinyl Chloride (PVC), and Top and Trim adhesives. During that period, several key amendments were made to prohibit sales of non-compliant products and to restrict the usage of some toxic chemicals including methylene chloride, perchloroethylene, and trichloroethylene.

The current rule limits VOC content in 41 categories of adhesives, adhesive primers, sealants, and sealant primers. The rule applies to products used during manufacturing at stationary sources and to products used by consumers that are not regulated by the CARB CPR.

Adhesive and sealant use subject to the rule spans a wide range of industries that have miscellaneous uses during manufacturing. The industry sectors that make extensive use of products subject to this rule include (4):

- Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing (NAICS 333415)
- All Other Rubber Product Manufacturing (NAICS 326299)
- Commercial and Institutional Building Construction (NAICS 236220)
- Custom Architectural Woodwork and Millwork Manufacturing (NAICS 337212)

- Drywall and Insulation Contractors (NAICS 238310)
- Flooring Contractors (NAICS 238330)
- Footwear Manufacturing (NAICS 316210)
- Glass and Glazing Contractors (NAICS 238150)
- Hardwood Veneer and Plywood Manufacturing (NAICS 321211)
- Household Furniture (except Wood and Metal) Manufacturing (NAICS 337125)
- Industrial Building Construction (NAICS 236210)
- Manufactured Home (Mobile Home) Manufacturing (NAICS 321991)
- Motor Vehicle Seating and Interior Trim Manufacturing (NAICS 336360)
- New Multifamily Housing Construction (except For-Sale Builders) (NAICS 236116)
- New Single-Family Housing Construction (except For-Sale Builders) (NAICS 236115)
- Office Furniture (except Wood) Manufacturing (NAICS 337214)
- Oil and Gas Pipeline and Related Structures Construction (NAICS 237120)
- Other Millwork (including Flooring) (NAICS 321918)
- Plumbing, Heating, and Air-Conditioning Contractors (NAICS 238220)
- Polystyrene Foam Product Manufacturing (NAICS 326140)
- Residential Remodelers (NAICS 236118)
- Roofing Contractors (NAICS 238160)
- Rubber Product Manufacturing for Mechanical Use (NAICS 326291)
- Showcase, Partition, Shelving, and Locker Manufacturing (NAICS 337215)
- Siding Contractors (NAICS 238170)
- Surgical Appliance and Supplies Manufacturing (NAICS 339113)
- Tile and Terrazzo Contractors (NAICS 238340)
- Tire Retreading (NAICS 326212)
- Urethane and Other Foam Product (except Polystyrene) Manufacturing (NAICS 326150)
- Water and Sewer Line and Related Structures Construction (NAICS 237110)
- Wood Container and Pallet Manufacturing (NAICS 321920)
- Wood Kitchen Cabinet and Countertop Manufacturing (NAICS 337110)
- Wood Window and Door Manufacturing (NAICS 321911)

The industries that supply regulated products to facilities are covered by Asphalt Shingle and Coating Materials Manufacturing (NAICS 324122 and 325520) and Adhesive Manufacturing (NAICS 325520).

According to the 2016 AQMP, the total emissions inventory for adhesives and sealants is estimated to be 4.1 ~~tons per day~~ (tpd). The inventory does not include consumer products subject to the CARB CPR. The AQMP inventory does include emissions from area sources, which are small sources that do not have permits, stationary sources, which include small sources with permits, and larger facilities that report as part of the Annual Emissions Reporting (AER) Program because they emit at least four tons per year of a criteria pollutant. In 2015, the AER facilities emitted 0.1 tons per day of VOC, which represents approximately one percent of the overall inventory of Rule 1168. The majority of emissions come from the large number of smaller facilities not subject to the AER program with limited data. The adhesive and sealant usage is primarily for architectural applications, which are not normally subject to SCAQMD permitting requirements. Additionally, the adhesive and sealant emissions also result from those smaller sources that may be more apt to take advantage of a 55 gallon per year exemption from VOC content limits provided for in the rule. This exemption allows facilities to use up to 55 gallons of non-compliant product per year.

The current rule amendment process began in 2013, at which time ~~District~~ staff conducted eight working group meetings and drafted six versions of proposed rule language. As part of the 2013/2014 rule amendment process, the SCAQMD also developed a voluntary survey of product sales in the SCAQMD to improve the emission inventory and to assess product market share. The initial results from the survey were somewhat inconclusive because of limited participation. Further steps were taken to require manufacturers to provide sales information, which significantly improved the dataset.

During the 2013/2014 amendment, staff considered exempting both tBAC and DMC from the definition of a VOC. This proposal would have achieved substantial VOC emission reductions. However, the rule amendment was put on hold in 2014 due to toxicity concerns of tBAC and DMC, and uncertainty of the on-site exposure modeling methodologies. Staff held a Toxic Symposium in October 2014 and developed the draft “tBAC Assessment White Paper”, which was ~~initially~~ released in ~~October 2016~~ April 2017. As a result of that work, the ~~Governing Board~~ adopted Stationary Source Committee recommended a precautionary approach such that compounds with a known or suspected toxic endpoint will not be exempted from the definition of the VOC. In May 2017, ~~District~~ staff resumed the proposed amendment to Rule 1168, without the proposed exemptions for tBAC and DMC.

Relying on the survey from 2013/2014, with a growth factor applied to estimate increased usage (population growth was used as a surrogate for increased usage) staff estimates that the current inventory for adhesives and sealants is 10.5 tpd.

Staff is proposing mandatory sales reporting of regulated product sales be submitted every three years until 2025, then every five years, with a sunset date in 2040. This reporting will provide an accurate emission inventory and more detailed data that can be utilized as a tool for future inventory and rule development.

CARB CONSUMER PRODUCTS REGULATION AND SCAQMD RULE 1168

The proposed rule language includes clarifications on the applicability of the rule to those products included in the CARB CPR by modifying the language in the eExemption section. The current

rule language exempts products subject to the CARB CPR from Rule 1168 requirements. Staff is proposing to clarify this exemption, in paragraph (i)(10):

- “(10) The provisions of this rule shall not apply to regulated products which weigh one pound or less, or consist of 16 fluid ounces or less and have VOC content limits in Section 94509(a) of the California Air Resources Board Consumer Products Regulation found in Title 17 of the California Code of Regulations, beginning at Section 94507, unless they are:
- (A) Incorporated into or used exclusively in the manufacture or construction of the goods or commodities, and not exempted in paragraph (i)(2); or
 - (B) Used in pollution-generating activities that take place at stationary sources (including area sources), excluding maintenance and repair and not exempted in paragraph (i)(2) of the stationary source.”

The proposed clarification serves to explicitly state the District’s regulatory authority regarding Rule 1168. However, clarifying this interpretation has caused concern and uncertainty regarding which products and uses are regulated by the CARB CPR and which products and uses are regulated by SCAQMD Rule 1168. The CARB CPR regulates adhesives and sealants explicitly defined within the regulation that weigh one pound or less or consist of 16 fluid ounces or less. The CARB CPR has the following seven general categories:

- Adhesives
 - Aerosol Adhesives;
 - Construction, Panel, or Floor Covering Adhesives;
 - Contact Adhesives, both for General Purpose and Special Purpose; and
 - General Purpose Adhesives
- Sealant or Caulking Compounds
 - Chemically Curing, non-aerosol, and
 - Nonchemically Curing, non-aerosol.

The definitions of each of these broad categories list subcategories that are explicitly included and excluded from the definition. Those definitions were vital in determining the extent to which Rule 1168 could regulate subcategories that are included in the CARB CPR. Generally, those subcategories that are excluded from the definitions of the CARB CPR would be subject to Rule 1168 regardless of the container size, such as clear/paintable/water resistant caulking compounds, roof cements, and roof sealants.

In addition, during the 2013/2014 rule amendment process, ~~District~~ staff received further clarification on SCAQMD authority through correspondence (5) from CARB regarding the SCAQMD’s regulatory authority over consumer products. As stated on page 4 of Enclosure 2 of the letter:

“To put the issue very simply, consumer products include the many chemically formulated products commonly available in such outlets as supermarkets, hardware stores, catalog sale companies, etc., that consumers purchase for use in and around their homes (i.e., household products). It is also fairly clear that certain products are not consumer products (i.e., products used by industrial facilities, where the products are “. . . incorporated into or used exclusively in the manufacture or construction of the goods or commodities at the site of the establishment . . .”). For example, “consumer products” do not include such products as fabric protectants and adhesives that are applied to furniture at a factory, as part of the manufacturing process. The definitions set forth above are intended to make this basic distinction.”

CARB further made it clear in that letter that SCAQMD has regulatory authority to regulate VOC emissions from “stationary sources such as manufacturing facilities,” even if those products are consumer products used at that site, provided they are incorporated into or used exclusively for the manufacturing process. The correspondence also helped clarify what is meant by products that are part of the manufacturing operation, as can be found on page 10 of the CARB correspondence letter:

“Products “‘used as part of manufacturing operation’” fall into two general categories, both of which the SCAQMD has the authority to regulate. The first category consists of products that are commonly referred to as industrial products, which are products that are incorporated into or used exclusively in the manufacture or construction of the goods or commodities at the site of the establishment. These products may be regulated by the SCAQMD because they are not “consumer products” as that term is defined in ARB regulations, and ARB Consumer Products Regulations thus do not apply to these products.”

“The second category consists of products that are “‘consumer products’” (as that term is defined in ARB Consumer Products Regulations), and have VOC limits specified in ARB regulations, when such products are used at stationary sources such as manufacturing facilities. ARB’s position is that the SCAQMD can regulate the use of consumer products at stationary sources, as part of the long-standing authority of local air districts to regulate pollution generating activities at stationary sources.”

SCAQMD recognizes that there are household products that some commercial facilities use that will fall under the regulatory authority of the CARB CPR. Other products may primarily be used in an industrial setting but can be purchased at a local hardware store. In these cases, the primary purpose and use of the product will determine if it falls under the CARB CPR or SCAQMD Rule 1168. Further, the use of the phrase “incorporated into or used *exclusively* in the manufacture or construction of the goods or commodities” from the definition of “Institutional Product” in the CARB CPR is not intended as a mechanism for rule circumvention. If an adhesive is used primarily for the manufacturing process at a stationary source or facility, but there is some incidental institutional use, such as the maintenance or repair of the facility, the SCAQMD would interpret that product as being subject to Rule 1168.

CARB’s *Advisory 307 Industrial & Institutional Products Definition Clarification* (6) also addresses questions about the definition of Industrial and Institutional products and applicability

in the CARB CPR. Question number three within that advisory addresses the concern of the use of a CPR noncompliant glass cleaner on a finished product from the assembly line of a manufacturing facility. The question in this scenario asks if the use of the glass cleaner for that purpose would exempt the product from the CARB CPR. CARB's response within the advisory states that if the noncompliant product is designed to be used exclusively to clean finished products manufactured at the site of an establishment, such products are exempt from the CPR, even though they are not "actually incorporated into" the manufactured goods or commodities. Such a product may instead be subject to local air district regulations with jurisdiction over the manufacturing site. Although CARB's example in the advisory was a cleaning product, the explanation of use for this purpose in a manufacturing assembly line could also explain the use of an adhesive or sealant in a similar setting.

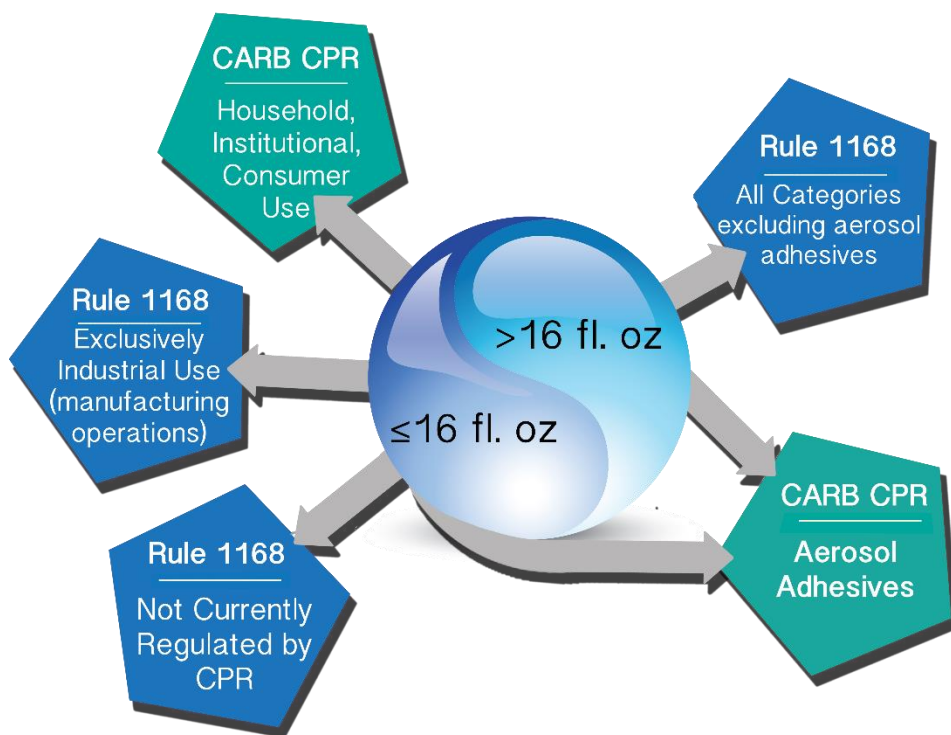
Rule 1168 is written and implemented consistently with other SCAQMD VOC rules, such as Rule 1171 – Solvent Operations. The applicability of subjectivity to SCAQMD VOC rules versus or CARB CPR is consistent with the SCAQMD's long standing implementation and interpretation of applicability between the two regulations as stated in the CARB correspondence letter (page 3 of Enclosure 3) quoted below:

"Turning to SCAQMD Rule 1171, at first glance Rule 1171 appears to apply very broadly. However, it is my understanding from your letter that Rule 1171 is not interpreted or applied by the SCAQMD in this manner. Your letter states the rule is not applied to individuals who perform solvent cleaning (e.g., a consumer using automotive brake cleaners on their own car), but is instead applied only to "solvent cleaning operations" (i.e., stationary and area sources that the SCAQMD has traditionally regulated). In other words, Rule 1171 is designed to regulate activities that occur at permitted stationary sources, and such unpermitted stationary sources (including area sources) that have been traditionally regulated by the districts. As such, it falls squarely within the long-established authority of the districts to regulate activities of stationary sources, and was adopted for a different purpose than the ARB consumer products regulation. It is therefore our opinion that SCAQMD Rule 1171, as interpreted and applied by the SCAQMD, is not preempted by Health and Safety Code section 41712(f)."

Based on the information above, the proposed rule language also clarifies that any adhesive or sealant incorporated into or used to manufacture or construct goods or commodities, regardless of size, are regulated under Rule 1168 ~~if those activities do not make use of products regulated by the CARB CPR~~. Figure 1 below summarizes the applicability of the two regulations.

Figure 1: Comparison of SCAQMD Rule 1168 Applicability to CARB CPR

SCAQMD Rule 1168 Applicability Compared to the CARB CPR



The figure above differentiates those products equal to or less than 16 fluid ounces in size that are regulated by the CARB CPR ~~versus~~ or SCAQMD Rule 1168. For all applicable products greater than 16 fluid ounces, SCAQMD Rule 1168 applies because the CARB CPR does not apply. Aerosol adhesives are currently regulated by CARB.

The table below is provided to show which of the categories in Rule 1168 ~~are~~ may also be regulated by the CARB CPR.

Table 1: Comparison of SCAQMD Rule 1168 Applicability to CARB CPR

SCAQMD Rule 1168 Applicability versus the CARB CPR

Category	RULE 1168	CPR
Adhesives		
Architectural Applications	✓	✓
Building Envelope Membrane Adhesive	✓	
Carpet Pad Adhesive	✓	✓
Ceramic Glass, Porcelain, & Stone Tile Adhesive	✓	✓
Cove Base Adhesive	✓	✓
Dry Wall and Panel Adhesive	✓	✓
Multi-Purpose Construction Adhesives	✓	✓
Roofing		
All Other Roof Adhesive	✓	✓

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Category	RULE 1168	CPR
Single Ply Roof Membrane Adhesive	✓	✓
Structural Glazing Adhesive	✓	✓
Structural Wood Member Adhesive	✓	✓
Subfloor Adhesive	✓	✓
VCT and Asphalt Tile Adhesive	✓	✓
Wood Flooring Adhesive	✓	✓
All Other Indoor Floor Covering Adhesives	✓	✓
All Other Outdoor Floor Covering Adhesives	✓	✓
Computer Diskette Manufacturing Adhesive	✓	
Contact Adhesive	✓	✓
Edge Glue Adhesive	✓	
Plastic Welding Cement		
ABS Welding Cement	✓	
ABS to PVC Transition Cement	✓	
CPVC Welding Cement	✓	
PVC Welding Cement	✓	
All Other Plastic Welding Cement	✓	
Rubber Vulcanization Adhesive	✓	
Special Purpose Contact Adhesive	✓	✓
Thin Metal Laminating Adhesive	✓	✓
Tire Tread Adhesive	✓	
Top and Trim Adhesive	✓	✓
Waterproof Resorcinol Glue	✓	
All Other Adhesives	✓	N/A
Substrate Specific Adhesive Applications		
Metal	✓	
Plastic Foams	✓	
Porous Material (except wood)	✓	
Wood	✓	
Fiberglass	✓	
Reinforced Plastic Composite	✓	
Sealants		
Architectural Applications		
Clear, Paintable, <u>and</u> Immediately Water-Resistant Sealant	✓	
<u>Foam Insulation</u>	✓	
Foam Sealant	✓	
Grout	✓	
Insulating Foam Sealant	✓	
Roadway Sealants	✓	
Non-Staining Plumbing Putty	✓	
Potable Water Sealant	✓	
Roofing		
Single Ply Roof Membrane Sealant	✓	
All Other Roof Sealants	✓	
All Other Architectural Sealants	✓	✓
Marine Deck Sealant	✓	✓
All Other Sealants	✓	N/A
Adhesive Primers		

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Category	RULE 1168	CPR
Plastic	✓	
Pressure Sensitive	✓	
Traffic Marking Tape	✓	
Vehicle Glass	✓	
All Other Adhesive Primers	✓	
Sealant Primers		
Architectural Applications	✓	
Non Porous	✓	
Porous	✓	
Marine Deck	✓	
Modified Bituminous	✓	
All Other Sealant Primers	✓	

For the table above, if a product category does not have a check mark under the CPR column, the product is excluded from the CARB CPR; therefore, **all** uses of the product are subject to Rule 1168 regardless of size. If a product category has a check mark under both the CARB CPR and the SCAQMD Rule 1168, then the product is regulated by the CARB CPR only when the product is sold for consumer use (household, personal, or institutional) in containers 16 fluid ounces or smaller. When the unit of product is greater than 16 fluid ounces or when the product is incorporated into or used exclusively in manufacturing operations, regardless of size, SCAQMD Rule 1168 applies.

For example, a Dry Wall Adhesive would be categorized as the CARB CPR's Construction, Panel, or Floor Adhesive category and subject to the CARB CPR provided it was sold in a container under 16 fluid ounces. If that same product were sold in a container size greater than 16 fluid ounces, the product would be subject to Rule 1168, regardless if it were for consumer or manufacturing use. A manufacturer marketing a Dry Wall Adhesive in 16 fluid ounce or smaller containers could be reasonably certain the product is being used as a consumer product and regulated under the CARB CPR; therefore, they would not be required to comply with the requirements of Rule 1168. However, for products not included in the CARB CPR, such as pipe cements (Plastic Welding Cements), **all** uses of those products are subject to the provisions of Rule 1168, including consumer use.

In addition to the examples above, a broader scenario was questioned by stakeholders during this rule amendment process, where stakeholders requested clarification for those cases of regulated products used during home construction. Contractors at a residential or commercial building sites using adhesives and sealants that are included in the CARB CPR and 16 fluid ounces or less in size would be regulated by the CARB CPR, as explained in CARB Advisory 307 (*question number five*). The use of products not regulated by the CARB CPR or greater than 16 fluid ounces are regulated by Rule 1168.

The clear line being established is that the use of any adhesive or sealant as part of a pollution-generating activity taking place at stationary sources, or for the manufacture of a good or commodity for sale within the District, falls under regulatory authority of Rule 1168.

One other area of distinction between these two regulations is the Low Vapor Pressure VOC (LVP-VOC) exemption. The CARB CPR exempts the following compounds:

“LVP-VOC” means a chemical “compound” or “mixture” that contains at least one carbon atom and meets one of the following:

- (A) has a vapor pressure less than 0.1 mm Hg at 20°C, as determined by ARB Method 310, or
- (B) is a chemical “compound” with more than 12 carbon atoms, or a chemical “mixture” comprised solely of “compounds” with more than 12 carbon atoms, as verified by formulation data, and the vapor pressure and boiling point are unknown, or (Legal Disclaimer: Unofficial version of the Regulation for Consumer Products. The official legal edition is available at the OAL website: <http://www.oal.ca.gov/CCR.htm>)
- (C) is a chemical “compound” with a boiling point greater than 216°C, as determined by ARB Method 310, or
- (D) is the weight percent of a chemical “mixture” that boils above 216°C, as determined by ARB Method 310.

For the purposes of the definition of LVP-VOC, chemical “compound” means a molecule of definite chemical formula and isomeric structure, and chemical “mixture” means a substance comprised of two or more chemical “compounds.”

SCAQMD Rule 1168 does not exempt LVP-VOC compounds as testing shows they readily evaporate and are photochemically reactive (e.g. they form ground level ozone and secondary organic particles), as demonstrated in the *Air Quality Impacts of Low Vapor Pressure-Volatile Organic Compounds* study by Dr. David Cocker (7) and the SCAQMD study *Non-Volatile, Semi-Volatile, or Volatile: Redefining Volatile for Volatile Organic Compounds* by Uyen-Uyen T. Vo and Michael P. Morris (8). The VOC calculation is also different in the two regulations because the CARB CPR VOC limits are in weight percent and Rule 1168 VOC limits are in g/L. This difference in the calculation and VOC metric will affect manufacturers and private labelers for reporting and labeling purposes for those products that may be regulated under both regulations (e.g., business activities or manufacturing operations).

AVAILABLE TECHNOLOGY ASSESSMENT

Adhesive, as defined in the rule, is a substance that is used to bond one surface to another by attachment. Very simply, it is a substance that is sticky in nature and can span a broad range of chemistries from products produced from plants and animals, to contact and pressure sensitive adhesives; and reactive chemistries. Attachment may occur mechanically, by infusing into the substrate or chemically, through chemical or electrostatic bonding. Using this definition, paints and coatings could be characterized as having adhesive properties; however, an adhesive must bond one surface to another surface, excluding the application of subsequent coatings. Sealants are very similar to adhesives—~~except~~. Although they have adhesive properties, their *primary purpose* is not to *bond* one surface to another but to fill, seal, ~~or~~ waterproof, or weatherproof gaps or joints between two surfaces. Staff is proposing to align the definition of a sealant with the CARB and OTC definition by including “weatherproof”. This will also further clarify that foam insulation is applicable to Rule 1168.

Further, ~~s~~Sealants do not include products that are continuous coatings. Products that are continuous coatings and are used to seal or waterproof gaps are sealers or mastic products and subject to Rule 1113 – Architectural Coatings. Similarly, staff has reviewed liquid membrane

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products used as air barriers and considers these products to be subject to Rule 1113 as they are used as a barrier in architectural applications.

Over the past 17 years, since the last major reduction in VOC limits from adhesive and sealant applications, the technology of low-VOC products has improved significantly. Staff conducted a voluntary survey, designed in cooperation with interested stakeholders including trade associations, to capture this trend. Response was limited and many categories did not have sufficient information. This effort was followed by a mandatory request from adhesive and sealant manufacturers to provide information. Table 1 below lists the information gathered as a result of the voluntary survey, and summarizes the sales weighted average (SWA) regulatory VOC (less water and exempt compound) content reported for various survey categories. The SWA VOC is determined using a weighted average, based on sales volume, to give more influence to the products that have higher market share. The tables do not include products subject to the CARB CPR.

Categories listed as “Limited Data” means that limited volumes (<5,000 gallons sold), or limited responses (fewer than five products reported) were received from the surveys. Inclusion of this information may provide sufficient data for calculating market share of some manufacturers.

Table 2: SWA Regulatory VOC Content for Reported Regulated Products

Category	Current VOC Content Limit (g/L)	Regulatory SWA VOC Content (g/L)
Adhesives		
Architectural Applications		
Building Envelope Membrane Adhesive	250 [±]	Limited Data
Carpet Pad Adhesive	50	Limited Data
Ceramic Glass, Porcelain, & Stone Tile Adhesive	65	59
Cove Base Adhesive	50	13
Dry Wall and Panel Adhesive	50	46
Multi-Purpose Construction Adhesives	70	30
Roofing		
Single-Ply Roof Membrane Adhesive	250	152
All Other Roof Adhesives	250	127
Rubber Floor Adhesives	60	54
Structural Glazing Adhesive	100	Limited Data
Structural Wood Member Adhesive	140	Limited Data
Subfloor Adhesive	50	43
VCT and Asphalt Tile Adhesive	50	11
Wood Flooring Adhesive	100	51
All Other Indoor Floor Covering Adhesives	50	18
All Other Outdoor Floor Covering Adhesives	150	15
Computer Diskette Manufacturing Adhesive	350	Limited Data

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Category	Current VOC Content Limit (g/L)	Regulatory SWA VOC Content (g/L)
Contact Adhesive Adhesive	80	70
Edge Glue Adhesive	250	Limited Data
Plastic Welding Cement		
ABS Welding Cement	325	325
ABS to PVC Transition Cement	510	Limited Data
CPVC Welding Cement	490	490
PVC Welding Cement	510	510
All Other Plastic Welding Cements	250	Limited Data ⁵⁰⁴
Rubber Vulcanization Adhesive	850	Limited Data
Special Purpose Contact Adhesive	250	163
Thin Metal Laminating Adhesive	780	Limited Data
Tire Tread Adhesive	100	Limited Data
Top and Trim Adhesive	250	619*
Waterproof Resorcinol Glue	250	Limited Data
All Other Adhesives	250	150
Substrate Specific Adhesive Applications		
Metal	30	5
Plastic Foams	50	13
Porous Material (except wood)	50	12
Wood	30	5
Fiberglass	80	75
Reinforced Plastic Composite	250	27
Sealants		
Architectural Applications		
Clear, Paintable, and Immediately Water-Resistant Sealant	250	Limited Data
Foam Sealant	250	153
Grout	250	60
Insulating Foam Sealant	250	Limited Data
Roadway Sealant	250	70
Non-Staining Plumbing Putty	250	Limited Data
Roofing		
Single Ply Roof Membrane Sealants	450	153
All Other Roof Sealants	300	219
All Other Architectural Sealants	250	65
Marine Deck Sealant	760	Limited Data
All Other Sealants	420	326
Adhesive Primers		
Plastic	550	546
Pressure Sensitive	785	Limited Data

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Category	Current VOC Content Limit (g/L)	Regulatory SWA VOC Content (g/L)
Traffic Marking Tape	150	Limited Data
Vehicle Glass	700	Limited Data
All Other Adhesive Primers	250	42
Sealant Primers		
Architectural Applications		
Non Porous	250	Limited Data
Porous	775	Limited Data
Marine Deck	760	Limited Data
Modified Bituminous	500	Limited Data
All Other Sealant Primers	750	Limited Data

* These products were exclusively sold under the 55 gallon per year exemption, according to the survey.

Detailed information, including sales volume and product count histograms for categories targeted for VOC limit reductions, are included later in the Proposed Amended Rule – Requirements (c) – VOC Limits section of this document.

PROPOSED AMENDED RULE

Staff proposes the following modifications to PAR 1168:

Purpose and Applicability (a)

The purpose and applicability clarifies that the purpose of the rule is to reduce VOC and toxic air contaminants from adhesives, adhesive primers, sealants, and sealant primers. Furthermore, the rule applies to “any person who *uses*, sells, stores, supplies, distributes, offers for sale or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers, unless otherwise specifically exempted by this rule.” Staff added “distributes” for clarity.

Definitions (b)

Changes are proposed to the definitions to clarify the meaning of terms used within the regulation and to remove definitions that are obsolete. Additionally, many definitions are revised to provide more consistency between this regulation and the Ozone Transport Commission’s (OTC) Model Rule for ~~Adhesives and Sealants~~ Consumer Products (9). The model rule is utilized as the framework for a number of states’ adhesive regulations.

Some definitions refer to categories that have been incorporated into the catch-all “Other” category, which led to confusion. An effort has been made to make it clear that regulated products without a specific category limit are subject to the appropriate “Other” limit. Definitions that restated a dictionary definition and provided no additional insight have also been deleted. The proposed rule will remove the following definitions as obsolete:

- Adhesive Bonding Primer

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- Adhesive Primer for Plastic
- Adhesive Promoter
- Adhesive Solid
- Aerosol Spray Can
- Aerospace Component
- Aircraft
- Aircraft Tire Repair
- Architectural Sealant or Sealant Primer
- Ceramic Tiles
- Coating Solid
- Foam
- Glue
- Low-Solids Adhesive Primer
- Nonmembrane Roof Adhesive
- Nonmembrane Roof Sealant
- Orthotics and Prosthetics
- Primer
- Propellant
- Rubber Foam
- Sheet Applied Rubber Lining Operation
- Space Vehicle
- Viscosity
- Wood Parquet Flooring
- Wood Plank Flooring

The following definitions are revised or added for clarification or to be more consistent with the CARB CPR and OTC Model Rule.

- ABS to PVC Transition Cement
- ABS Welding Cement
- Adhesive
- Adhesive Primer
- Adhesive Tape
- Aerosol Adhesive
- Aerosol Product
- Architectural Application
- Architectural Appurtenance
- Big Box Retailer
- Building Envelope
- Building Envelope Membrane Adhesives
- Ceramic, Glass, Porcelain, and Stone Tile
- CPVC Welding Cement
- Clear, Paintable, and Immediately Water-Resistant Sealant
- Contact Adhesive

- Consumer Products Regulation
- Cove Base
- Cyanoacrylate Adhesive
- Dip Coat
- Distribution Center
- Edge Glue
- Electrostatic Application
- Energy Curable Adhesive and Sealant
- Exempt Compounds
- Flow Coat
- Foam Insulation
- Foam Sealant
- Grams of VOC per liter of regulated product, less water and less exempt compounds
- Grams of VOC per liter of material
- Grout
- Hand Application Methods
- HVLP Spray
- Indoor Floor Covering Adhesive
- ~~Insulating Foam~~
- Low-Solids
- Maintenance
- Manufacturing
- Marine Appurtenances
- Marine Deck Sealant
- Marine Deck Sealant Primer
- Non-Staining Plumbing Putty
- Outdoor Floor Covering Adhesive
- Ozone-Depleting Compound
- Person
- Plastic Adhesive Primer
- Plastic Welding Cement
- Plastics
- Polyethylene Terephthalate
- Pump Spray
- PVC
- Potable Water Architectural Sealant
- Pressure Sensitive Adhesive
- Private Labeler
- PVC Welding Cement
- Reactive Products
- Regulated Product
- Reinforced Plastic Composite
- Repair
- Rubber

- Rubber Vulcanization Adhesive
- Sealant
- Single_ply Roof Membrane Sealant
- Toll Manufacturer
- Toxic Air Contaminant
- Traffic Marking Tape Adhesive Primer
- Transfer Efficiency
- Vinyl Compositions Tile
- Vehicle Glass Adhesive Primer
- Waterproof Resorcinol Glue

The following is a summary of the substantial rule definition changes. Throughout the rule, the phrase ‘adhesives and sealants’ was replaced with the phrase ‘regulated products’ to clarify that requirements apply to adhesives, adhesive primers, sealants, and sealant primers. Those and other minor definitions changes are included in the summary below:

- ABS to PVC Transition Cement – The definition recognizes a category of products that are used to join ABS and PVC building drains and sewers. The product category is limited to products that comply with ASTM D3138.
- ABS Welding Cement – The definition was added to be consistent with the other Plastic ~~Cement~~ Welding Cement categories that define the type of plastic first and then define the category.
- Adhesive Primer and Sealant Primer – Primers must be film forming to clarify that solvents used to clean and prepare the surface prior to application of an adhesive or sealant is subject to Rule 1171 – Solvent Cleaning Operations. Additionally, language was added to clarify that other terminology used in lieu of “primer” including, but not limited to “promoter” or “bonding primer” are to be classified as “primer” in this rule.
- Adhesive Tape – This term was defined as these tapes are proposed for exemption from the rule.
- Aerosol Adhesive – This term was modified for clarity to remove specific categories in the CARB CPR to prevent need for amending the rule in the future if CARB modifies their aerosol adhesives. In addition, the definitions of Aerosol Product and Pump Spray, from the CARB CPR, were included to support the definition of Aerosol Adhesive.
- Architectural Appurtenance – The definition was made consistent with the terminology used in Rule 1113 – Architectural Coatings.
- Big Box Retailer – Added to define the retailers responsible for the proposed reporting requirements within this rule.
- Building Envelope and Building Envelope Membrane Adhesives – Added to define a new category of adhesives that are subsets of the existing default category from ‘Other Adhesives’.

- Ceramic, Glass, Porcelain, and Stone Tile Adhesive – The definition of Ceramic Tile was modified to apply to all tile products, which include but are not limited to ceramic, glass, porcelain, and stone tile.
- CPVC Welding Cement – The definition was added to harmonize with the OTC.
- Clear, Paintable, and Immediately Water-Resistant Sealant – A product category and VOC content limits have been included for the products excluded from the CPR.
- Contact Adhesive – This definition was revised to harmonize with the CPR definition of this term.
- Consumer Products Regulation (CPR) – The definition was added to reference the California Air Resources Board’s regulation whenever this term is utilized within the rule.
- Cove Base – The -definition was amended to be consistent with the OTC.
- Cyanoacrylate Adhesive – The proposed rule removes the exemption for these products. The minimum cyanoacrylate content has been removed allowing products to take maximum advantage of the reactive portion of these types of products.
- Dip Coat – The definition was added to specify method of application.
- Distribution Center – The definition was added to specify applicability for reporting requirements.
- Edge Glue – Added to define a new category of adhesives, this is a subset of the existing default category of the “Other Adhesives”.
- Electrostatic Application – This term -was defined as it is included in the transfer efficiency section.
- Energy Curable Adhesives and Sealants – A definition has been added to provide manufacturers with a test method (ASTM D 7767) for thin film products when determining VOC content during manufacturing of the adhesives and sealants themselves.
- Exempt Compounds – This definition was revised to add the name of Rule 102, which is referenced in the definition.
- Flow Coat – The definition was added to specify method of application.
- Foam Insulation – This definition was originally included as “insulating foam” and revised to foam insulation. The definition was included to clarify that foam insulation is applicable to the rule.
- ~~Foam Sealant and Insulating Foam~~ – These definitions were included to clarify that foam sealants are applicable to the rule with specific VOC limits.
- Grout – Added to define a new category of sealants.
- Manufacturing, Maintenance, and Repair – These definitions are included to clarify the applicability of the rule.
- Marine Appurtenances – This term was included to clarify what products are classified as marine adhesives and sealants.

- Non-Staining Plumbing Putty - Added to the rule to define new category of sealants.
- ~~Other Plastic Welding Cements – The VOC limit for this category was added to address reasonably available control measures (RACM) and best available control measures (BACM) requirements for cellulosic plastic welding and styrene acrylonitrile (SAN) welding adhesives.~~
- Ozone-Depleting Compound and Toxic Air Contaminant – These definitions are included to clarify the applicability of the rule.
- Person – This term was revised to reference the definition in Rule 102.
- Plastic Adhesive Primer – This definition was included to clarify the function of plastic adhesive primers. ~~Products subject to this definition must meet the specifications of ASTM F656.~~
- Plastics – This definition was expanded.
- Potable Water Architectural Sealant – Added to the rule to define new category of sealants used for drinking water and water treatment.
- Pressure Sensitive Adhesive – Included in the rule to define new category of primers used for the application of pressure sensitive adhesives.
- Private Labeler – This definition was included to clarify the applicability of the rule.
- PVC Welding Cement – The definition was added to harmonize with the OTC.
- Reactive Product – The definition of Reactive Diluent was modified to Reactive Product to reflect how these products are tested.
- Regulated Product – The definition was added to clarify that the rule applies to adhesive, adhesive primers, sealants, and sealant primers whenever this term is utilized.
- Reinforced Plastic Composite and Waterproof Resorcinol Glue – Added to address RACM/BACM requirements.
- Rubber – This definition was added, as there are several references to rubber adhesives.
- Rubber Vulcanization Adhesive – This definition will replace Sheet-Applied Rubber Lining Operation to clarify which operations are subject to the VOC content limits in this category. The previous definition allowed some rubber bonding operations unnecessarily high VOC content limits while not addressing technology limitation for vulcanization operations.
- Sealant – This definition was modified to mirror with the OTC and CARB.
- Singe_Ply Roof Membrane Sealant – This definition was amended based on stakeholder feedback.
- Thin Metal Laminating Adhesive – This definition was amended to describe a type of adhesive product instead of the process as previously defined.
- Toll Manufacturer – This definition was added to clarify how a Private Labelers is defined for the purposes of this rule.

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- Vehicle Glass Adhesive Primer – Added to define new category of primers.
- Vinyl Compositions Tile (VCT) – The definition was modified for consistency with rule language.

Requirements (c)

VOC Limits

Two approaches are taken to determine new proposed VOC limits for regulated products. The first approach is to investigate available products on market shelves and distributor, supplier, and manufacturer websites. The second, where available, is to review product sales information provided in the survey. The data is analyzed to examine market trends and market share of low-VOC products. Where available, products sales information is provided below under each category designation (Table 3 through 11 and Figures 2 through 17). Please note for the following histograms: the dashed red line indicates the future proposed VOC limits, the x-axis is the VOC distribution, in g/L, and the y-axis represents the sales volume or product count. Available future compliant products, i.e., products that meet the proposed VOC limits, are also provided below by product category. This represents only a sampling of products and not every product is listed.

Adhesive – Architectural Applications – ABS to PVC Transition Cement

This category was added based on stakeholder input. The proposed most restrictive clause stipulates that if a regulated product may be designated as various categories listed in the Table of Standards, the lowest VOC limit of those varying categories applies. For the case of ABS to PVC, the stakeholders indicated they needed the higher VOC limit to adhere the PVC to the ABS. Staff is proposing an initial limit of 510 g/L with a VOC reduction in 2023 to ~~34~~25 g/L when the PVC limit is proposed to be lowered.

Adhesive – Architectural Applications – CPVC and PVC Welding Cement

The 2013/2014 survey indicated that CPVC and PVC Welding Cement products have a VOC content close to the 490 g/L and 510 g/L existing rule limits. Staff is proposing a 425 g/L limit for the PVC welding cement and 400 g/L for the CPVC welding cement categories based on products released after the survey. There is currently a product being marketed as a multi-purpose welding cement for a combination of ABS, PVC, and CPVC ~~at with a VOC content below 325 g/L~~ and a product marketed to the irrigation market for PVC and CPVC ~~at 400 g/L below the future limit for those categories~~. Based on stakeholder feedback, the definitions for these categories were changed from the preliminary draft proposal to allow flexibility in the reformulation of the products. Some of the uses of the plastic welding cements must meet requirements in the plumbing code, the adoption of the lower limits is contingent on altering the required ASTM methods (ASTM F493 and D2564). These products meet the performance standards; however, they do not meet the requirements to dissolve a certain percent of the polymer (3% and 10%), according to the ASTM methods listed in the plumbing code. Stakeholders indicated they would work on modifying the ASTM standards. ~~District s~~Staff can help guide this process through participation on the ASTM committee. The proposed rule includes a technology assessment to ensure the changes to the ASTM methods are successful prior to the proposed limits going into effect.

Adhesive - Architectural Applications – All Other Outdoor Floor Covering Adhesives

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Most of the reviewed All Other Outdoor Floor Covering Adhesives are very low in VOC content. More than half are freeze/thaw stable. The proposed VOC content limit for this category is 50 g/L. This proposed limit is to align the VOC limit for this category with the current limit for All Other Indoor Floor Covering Adhesives so that all other Floor Covering Adhesives categories can be combined in the future. This will simplify compliance with the rule. Nearly all of the products reviewed had a VOC content of 50 g/L or below; therefore, staff does not anticipate emission reductions from this change.

The table below shows a list of future compliant products and sales volume and product count distributions.

Table 3: All Other Outdoor Floor Covering Adhesives Less Than Proposed VOC Limit

Product Name	VOC Content (g/L)
Bostik D808 Ext Carpet Adhesive	<1
Flexco Flex-Tuft Adhesive	17
HB Fuller TEC 975	0
Parabond 2850	0
Roberts 6700	0
Roberts Capitol CA024	0
Shaw 6300	0
XL Brand Stix 1100	0
Proposed:	50

Adhesive - Architectural Applications – All Other Roof Adhesives

All Other Roof Adhesives consist of roofing products excluding Single-Ply Roof Membrane Adhesives. However, some products categorized as All Other Roof Adhesives are the same products used for Single-Ply Roof Membrane Adhesives as built up roofing system may consist of a single-ply or multiple-plys. The reviewed products are either high-solids asphalt or reactive products. The asphalt products require high heat to apply. Further sub-categorization of the All Other Roof Adhesive category may be necessary. The proposed VOC limit for this category is 200 g/L. Staff proposed a future technology assessment to determine if sub-categorization for this category are warranted.

The table and two figures below show a list of future compliant products and sales volume and product count distributions.

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Table 4: All Other Roof Adhesives Less Than or Equal to Proposed VOC Limit

Product Name	VOC Content (g/L)
Tremco Incorporated 372004 - PREMIUM IV ASPHALT	0
Johns Manville MBR COLD APPLICATION ADHESIVE 4.7 GAL (70000015)	178
Matrix Matrix™ 203 Plastic Roof Cement	200
Johns Manville MBR COLD APPLICATION ADHESIVE 53GAL (70000016)	178
Tremco Incorporated 372000 xxx - PREMIUM III ASPHALT	0
Tremco Incorporated 365305 xxx - POWERPLY WHITE ON WHITE ADHESIVE	184
Tremco Incorporated 360610Lxxx - ELS	169
Tremco Incorporated 361592 xxx - POLYROOF SF	21
Tremco Incorporated 182500 xxx - 100% SOLIDS INSUL ADHESIVE	10
Johns Manville MBR BONDING ADHESIVE BASE 4.4 GAL (70000028)	0
Tremco Incorporated 365600 XXX - BURMASTIC ADHESIVE SF	21
Tremco Incorporated 370110 xxx - ECOLASTIC	20
Johns Manville MBR BONDING ADHESIVE ACTIVATOR .6 GAL (70000027)	0
Tremco Incorporated 362300 xxx - LOW RISE FOAM INSULATION ADHESIVE	0
Tremco Incorporated 372004 - PREMIUM IV ASPHALT	0
Johns Manville MBR COLD APPLICATION ADHESIVE 4.7 GAL (70000015)	178
Tremco Incorporated 362300 xxx - LOW RISE FOAM INSULATION ADHESIVE	200
Proposed:	200

Figure 2: All Other Roof Adhesives Sales Volume

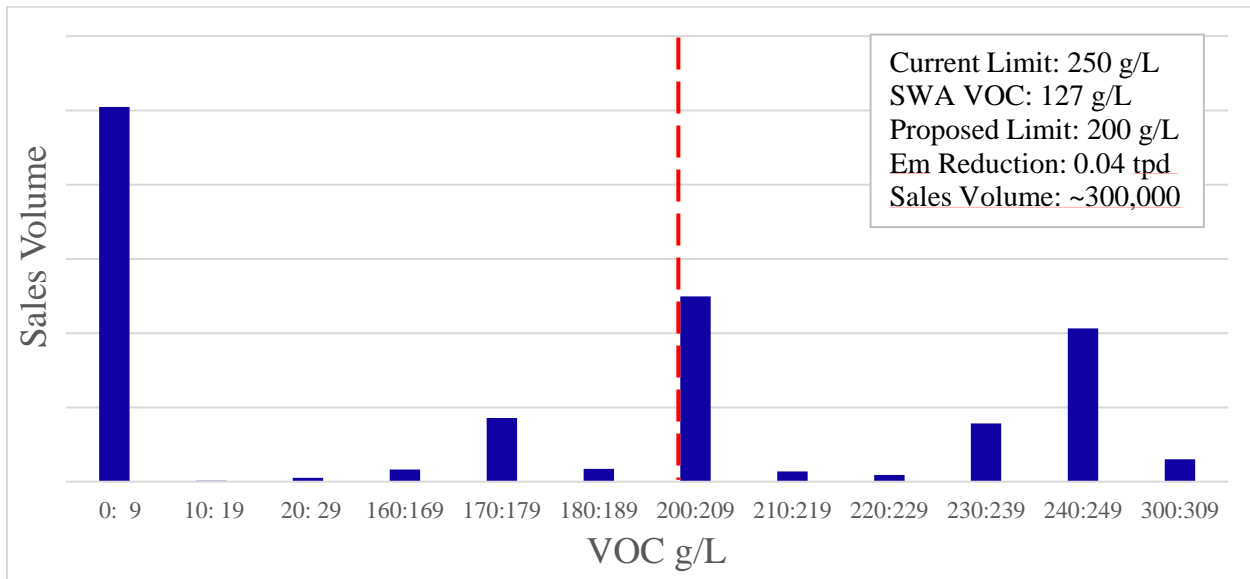
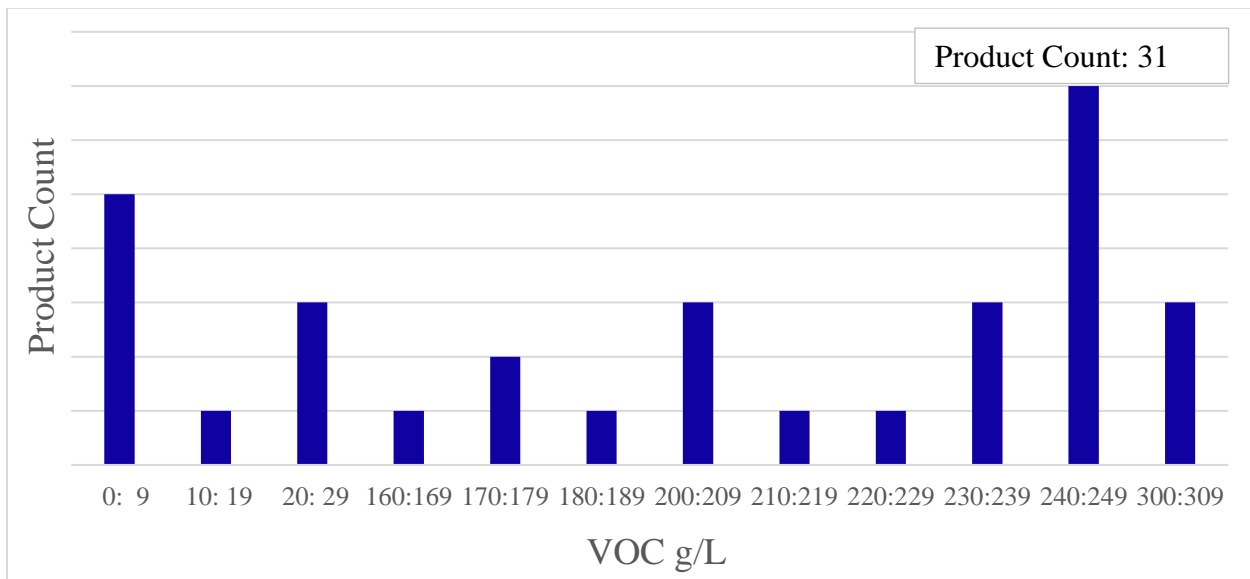


Figure 3: All Other Roof Adhesives Product Count



Adhesive - Architectural Applications – Single-Ply Roof Membrane Adhesives

Most of the products in the Single-Ply Roof Membrane Adhesive category have VOC contents below 125 g/L. These products are primarily water-based or reactive. Solvent-based products may contain exempt solvents including PCBTF. Concerns have been raised regarding the use of water-based adhesives in cool weather (<50°F) or when the temperature is near the dew point. In Southern California, the weather normally is warm enough not to interfere with roofing operations.

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From the survey data, it appears that the water-based products represent approximately 50 percent of the market share. Staff proposed a future technology assessment to determine if sub-categorization for this category are warranted.

The table and two figures below show a list of future compliant products and sales volume and product count distributions.

Table 5: Single- Ply Roof Membrane Adhesives Less Than Proposed VOC Limit

ADHESIVE	TYPE	VOC g/L	EPDM	PVC	TPO
Alfa WB 611FR	Water	0			
Carlisle FAST Adhesive	Reactive	<100	X	X	X
CarlisleAquabase 120	Water	<10	X		X
Chemlink Single-Ply EPDM Adhesive	Reactive	32	X		
DAP Roof Sealant		<200			
Durolast Duro-Fleece CR20	Reactive	68		X	
Durolast Duro-Fleece Membrane Adhesive	Reactive	<100		X	
Firestone ISO Spray S	Reactive	54			X
Firestone ISO Stick	Reactive	<100			X
Firestone Water Based Bonding Adhesive	Water	<100	X		X
Firestone XR Stick	Reactive	13			X
Flex FB Low Rise Foam Adhesive	Reactive	<100	X	X	X
Flex FleecebackSubstrate Adhesive	Water	<100		X	X
Flex WB 7008 Lamination Adhesive	Water	<100		X	X
GAF Everguard WB bonding Adhesive	Water	<20		X	X
GAF Olybond 500 Adhesive Fastener	Reactive	<100		X	X
JM EPDM Membrane Adhesive Water Based	Water	<100	X		
JM Roofing System Urethane Adhesive	Reactive	0	X	X	X
JM TPO Membrane Adhesive Water Based	Water	<100			X
Tremco Tremply HP 4510 Adhesive WB	Water	17			
Proposed:		200			

Figure 4: Single- Ply Roof Adhesive Sales Volume

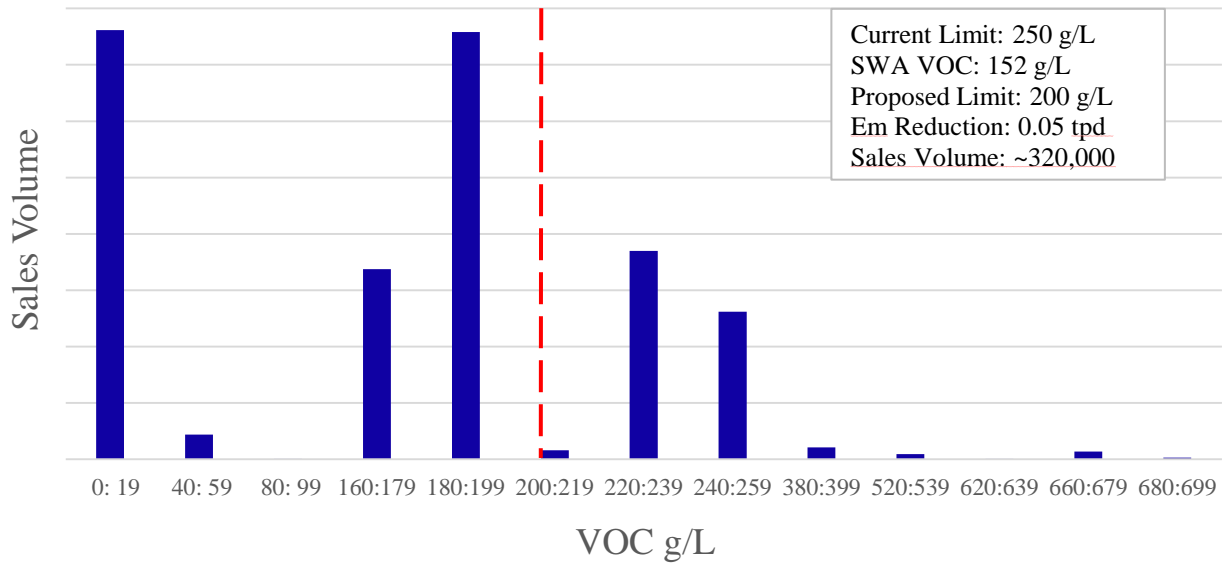
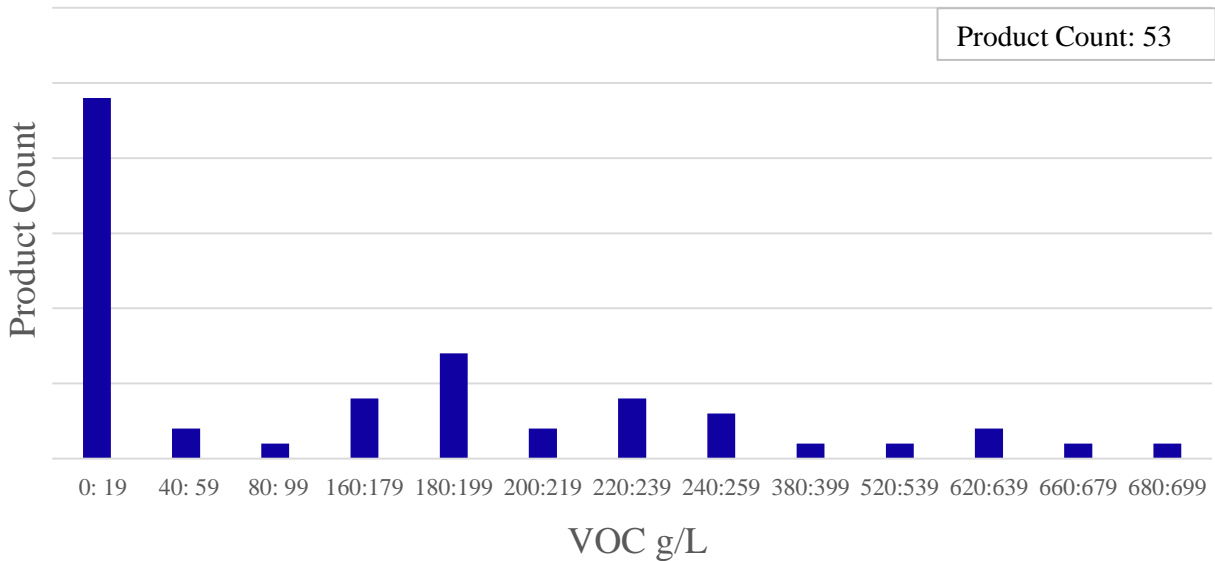


Figure 5: Single- Ply Roof Adhesive Product Count



Adhesive - Architectural Applications – Wood Flooring Adhesives

Nearly half of the products reviewed and surveyed had a VOC content of 20 g/L or below, which is the proposed limit for this category. The table and two figures below show a list of future compliant products and sales volume and product count distributions.

Table 6: Wood Flooring Adhesives Less Than or Equal to Proposed VOC Limit

Product Name	VOC Content (g/L)
AAT Problemsolver EW - Engineered Wood Flooring Adhesive	<1
APAC 979	15
APAC 999	20
DriTac 1001 All in One	0
Roberts R1509 Wood & Bamboo Flooring Adhesive	<1
TEC Woodlock	0
Titebond 771-Step Wood Flooring Adhesive 7719A	20
USG Durock Wood Flooring Adhesive	2
WF Taylor 2020 Wood Master Engineered Floor Adhesive	19
WF Taylor Meta-Tec MS-Plus	0
Proposed:	20

Figure 6: Wood Flooring Adhesive Sales Volume

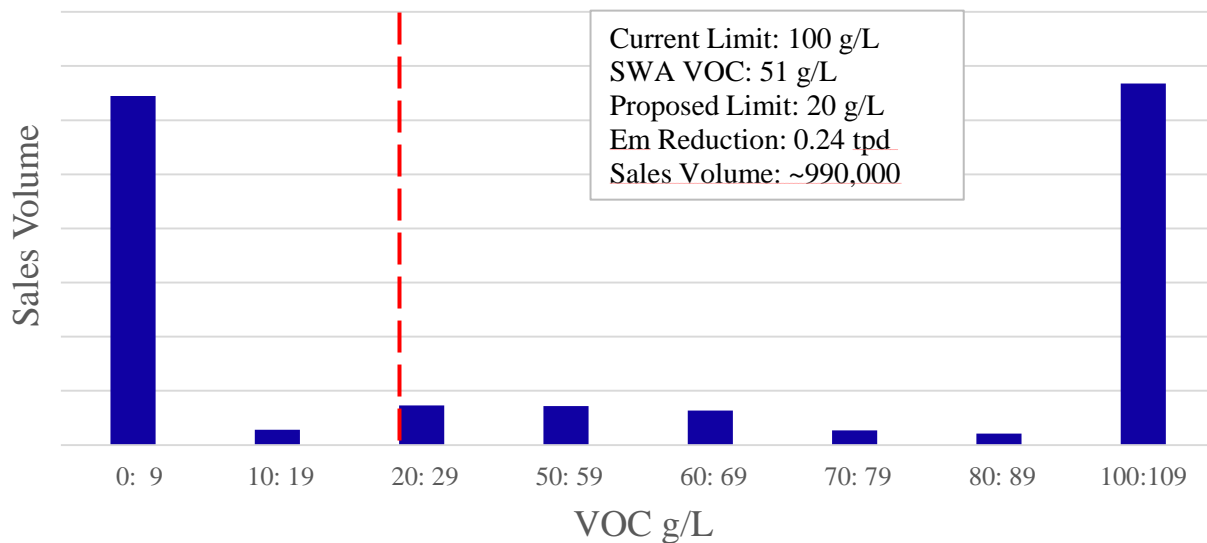
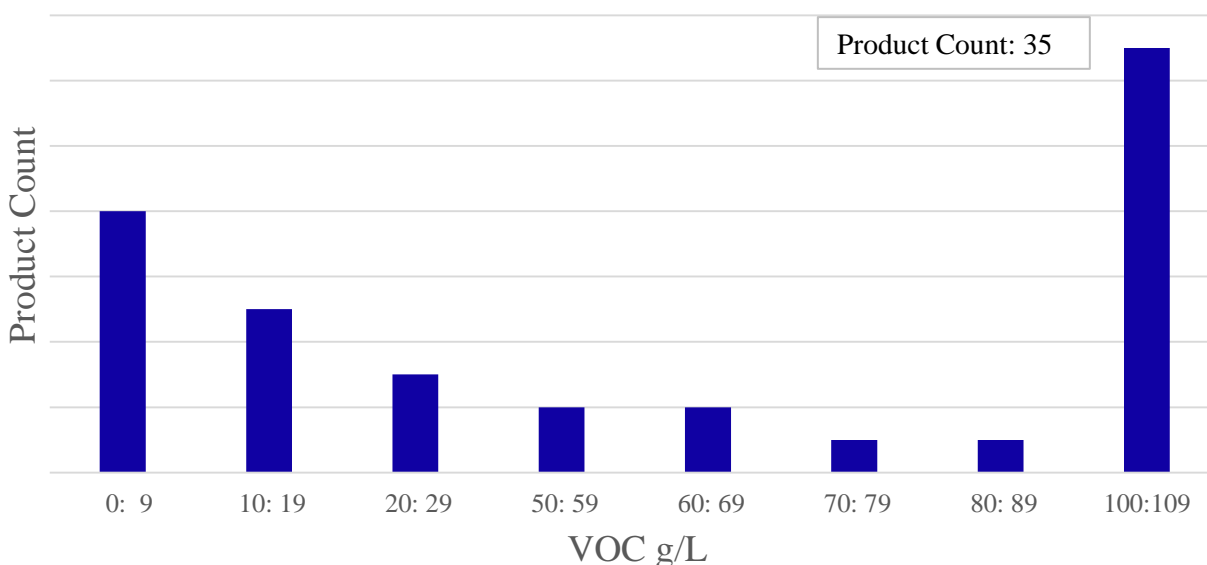


Figure 7: Wood Flooring Adhesive Product Count



Adhesive – Rubber Vulcanization Adhesive

This definition and VOC limit will replace the current version of the rule’s definition for Sheet-Applied Rubber Lining Operation to clarify which operations are subject to the VOC content limits in this category. The proposed higher VOC limit of 850 g/L that goes into effect upon rule adoption is offset by excluding Rubber Vulcanization Adhesive from the 55 gallon per year exemption in the proposed rule language. The future proposed limit will reduce the VOC limit to 250 g/L in 2023 to grant manufacturers time to reformulate to the default VOC limit.

Adhesive - Top and Trim Adhesives

The June 2002 amendment of Rule 1168 included a category for Top and Trim adhesives. Top and Trim adhesives are used to adhere automobile and marine trim, including headliners, vinyl tops, vinyl trim, sunroofs, dash covering, door covering, floor covering, panel covering, and upholstery. The VOC limit was set at 540 g/L, less water and exempt compounds, until January 1, 2004, when the VOC limit was projected to be reduced to 250 g/L. In October 2003, the rule was amended and the proposed VOC limit reduction was delayed for one year to allow manufacturers additional time to reformulate. The rule was amended again December 2004 (10), the Staff Report included the following assessment for Top and Trim Adhesives:

“Although initial results were promising on the availability and use of top and trim adhesives meeting the 250 grams VOC per liter standard by January 1, 2005, more recent information reveals that additional time will be required to develop acceptable products meeting that limit. Therefore, staff is recommending that the compliance date for the 250 grams of VOC per liter standard be moved to January 1, 2007 and the current limit of 540 grams of VOC per liter remain in effect until then.”

While the initial results were promising, the technical challenge of high heat resistance was never overcome and Top and Trim Adhesive users switched to higher VOC products (620 g/L), using the 55 gallon per year exemption. All reported sales for the Top and Trim category in 2012 was

for the high-VOC products. Rather than decrease emissions from this category by 0.2 tpd, the 250 g/L limit in conjunction with the volume usage exemption increased emissions by 0.04 tpd. To address this migration to exempted products, staff is proposing to reinstate the 540 g/L limit until 2023 and exclude Top and Trim Adhesives from the 55 gallon per year exemption. This would allow manufacturers time to reformulate and allow District-staff to maintain the emissions reductions already claimed in previous versions of the rule. Staff is confident that the removal of the 55 gallon exemption will result in manufacturers reformulating to the 250 g/L future limit but because of the past issues, staff will conduct a technology assessment to ensure the 250 g/L limit is feasible.

Adhesive - Waterproof Resorcinol Glue

The definition and VOC limit are identical to the provisions included in the OTC Model Rule for Adhesives and Sealants. The proposed limit for this category is 170 g/L. This proposed change is to address BACM requirements and is not projected to result in any significant emission reductions due to the limited use of these products.

Sealant – Architectural Applications – Clear, Paintable, and Immediately Water-Resistant

Architectural sealants already exist at 250 g/L that serve a similar purpose as this carved out category. This product category and VOC content limit have been included for the products, which are excluded from the CARB CPR. Although District-staff does not recognize the necessity to have a product that is clear and paintable and immediately waterproof, District-staff does understand that enforcement of these types of products would drive business out of the Basin. Currently, District-staff interprets the regulated products that fall within this category as All Other Architectural Sealants, which has a VOC limit of 250 g/L. Staff proposed a VOC limit of 380 g/L upon rule adoption with a VOC limit reduction to 250 g/L in 2023 to align with the District's current categorization of this product. ~~The two figures below show a list of future compliant products and sales volume and product count distributions.~~

Sealant - Architectural - Foam Sealants and ~~Insulating Foam~~ Insulation

Foam Sealants are products used to fill and form durable, airtight seals to common building substrates. They are typically sprayed into building cavities to provide water resistance, thermal resistance, or acoustic dampening. Their use has been increasing as building owners and property managers seek to reduce building energy consumption. Staff is proposing to include two categories of expanding foam sealants: 'foam sealants' that are typically used to fill small gaps around windows, doors, and floor and are typically supplied in aerosol cans and 'insulating foams' that are typically supplied in large canisters, applied by professionals, and sprayed into wall cavities to provide thermal insulation or minimize air infiltration.

The foam itself is typically a one-component or two-component polyurethane that contains little or no VOC. However, the propellants used in some of the aerosol products do contribute to the VOC content. The majority of the products offered for sale and the majority of the volume reported used are aerosol products. As they are substantially different from typical semi-solid paste or gel caulks and sealants, some may have concluded that these products would not be considered Architectural Sealants. To alleviate the confusion, staff is proposing to specifically define these two categories, which fall under the default VOC limit of 250 g/L. Staff is proposing to reduce the VOC limit of the foam sealant to 50 g/L, effective January 1, 2023, provided the technology

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assessment demonstrates the VOC limits are feasible. As the VOC in these products is predominantly from the propellants, it is expected that to comply with the proposed limits, manufacturers will use alternative non-VOC propellants or utilize application techniques that do not depend on propellants to disburse the product. ~~The insulating foams, which are already formulated between 0–50 g/L, will have a VOC limit of 50 g/L upon rule adoption.~~

Based on a comment letter submitted to the Stationary Source Committee on September 13, 2017 from the American Chemistry Council and subsequent discussions, staff is revising the proposed amendment as follows:

- Rename “insulating foam” “foam insulation,”
- Streamline the definition for foam insulation to reflect current practices in the industry, and
- Upon adoption, the VOC limit for foam sealants and insulation foams will be 250 g/L, reduced to 50 g/L effective January 1, 2023, based on the results of the technology assessment

The table and two figures below show a list of future compliant products and sales volume and product count distributions.

Table 7: Foam Sealants Less Than Proposed VOC Limit

Product Name	VOC Content (g/L)	Aerosol
Clayton Touch n Foam	155	Yes
DAPtex Plus Multi-Purpose Foam Sealant	167	Yes
DOW Froth Pak	< 20	No
Henkel OSI WINTeQ Foam	177	Yes
Red Devil Foam & Fill Minimal Expanding	150	Yes
Red Devil Foam & Fill Triple Expanding	150	Yes
Proposed:	200/50	

Figure 8: Foam Sealants Sales Volume

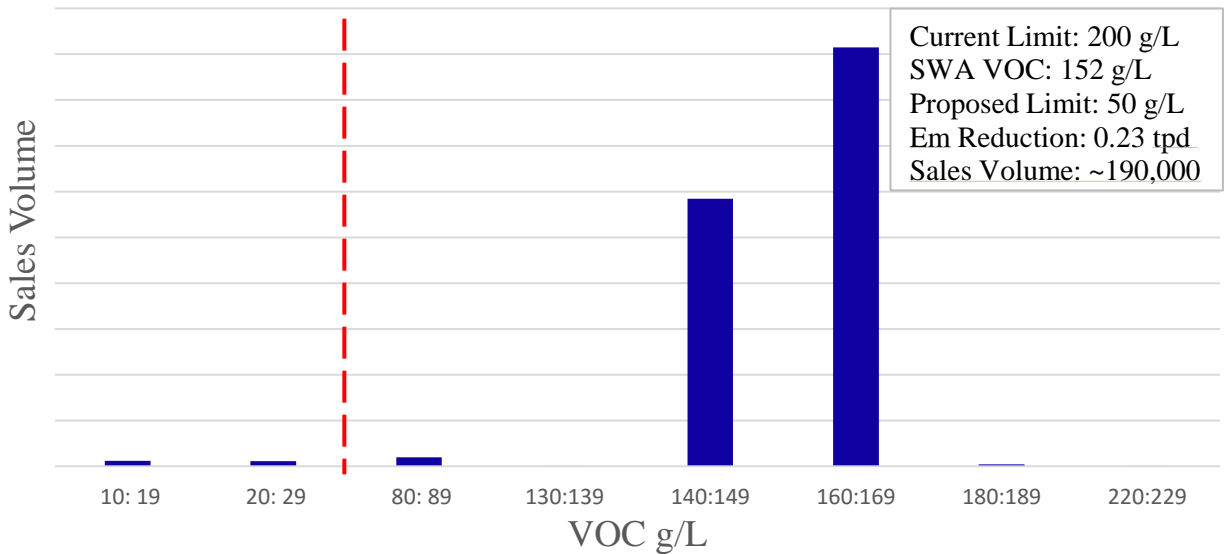
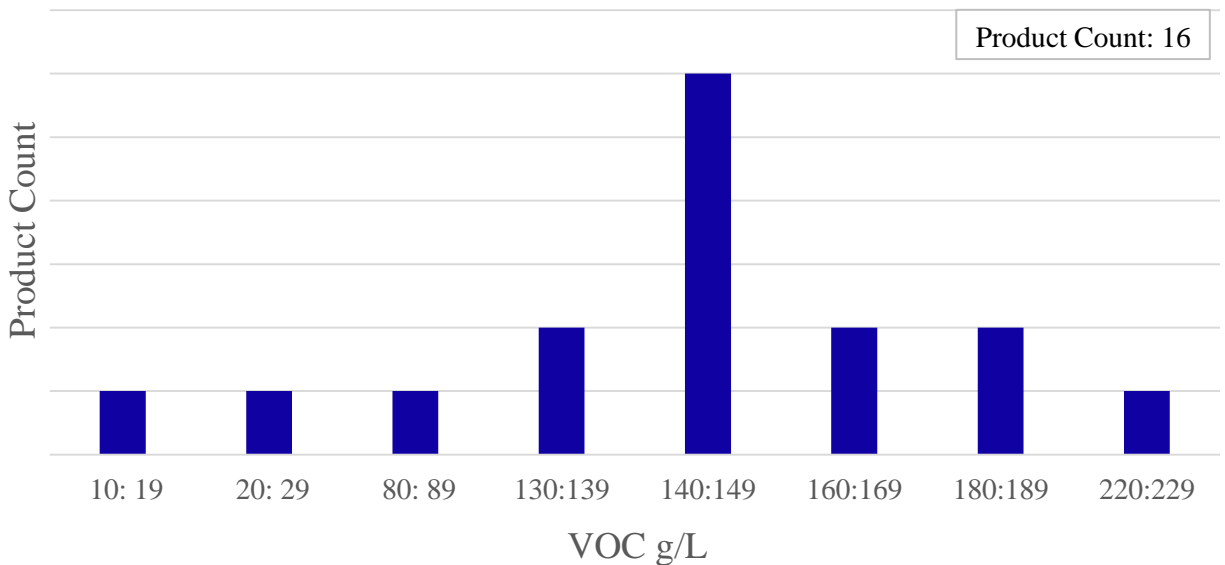


Figure 9: Foam Sealants Product Count



Sealant – Architectural – Grout

This definition and VOC limit was added to clarify that grout is regulated as an Architectural Sealant. The proposed VOC limit upon rule adoption is 65 g/L to reflect currently available products. Staff is not projecting emission reductions from this category.

Sealant – Architectural – All Other Roof Sealants

This category includes all roof sealants except Single-Ply Roof Membrane Sealants. Most of the products in this category have a VOC content of 300 g/L or less. These products are asphalt or

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polyurethane-based. The low-VOC roof sealants in this category are reactive or elastomeric products that require the surface to be moisture free. The higher-VOC solvent based products are applicable during rainfall. While roofing construction normally does not occur during rain, this category includes roofing repair products that are often used to seal leaks while it is raining. The proposed limit for this category is 250 g/L. Staff proposed a future technology assessment to determine if sub-categorization for this category are warranted.

The table and two figures below show a list of future compliant products and sales volume and product count distributions.

Table 8: All Other Roof Sealants Less Than Proposed VOC Limits

Product Name	VOC Content (g/L)	Immediately Water Resistant
DAP Premium Polyurethane Roof & Flashing Sealant	36	No
Chem Link M-1	< 20	No
DeWitt's 617 Clear Roof and Construction Sealant	14	No
Epmar Flexible Seal 60	>300	Yes
Franklin International Titebond WeatherMaster Metal Roof Sealant	28	No
Geocel 2300-CPW	>300	Yes
Henry 900	5	No
Henry 925B	5	No
Loctite PL Polyurethane Roof & Flashing Sealant	35	No
Red Devil RD 3000 Blacktop & Roof Repair Sealant	35	No
Sasheo Through the Roof	300	Yes
Seaman FTR 101	82	No
Tremco Reglet Joint Sealant 30	53	No
Tremco TremSEAL Pitch Pocket Sealer	0	No
Proposed:	250	

Figure 10: All Other Roof Sealant Sales Volume

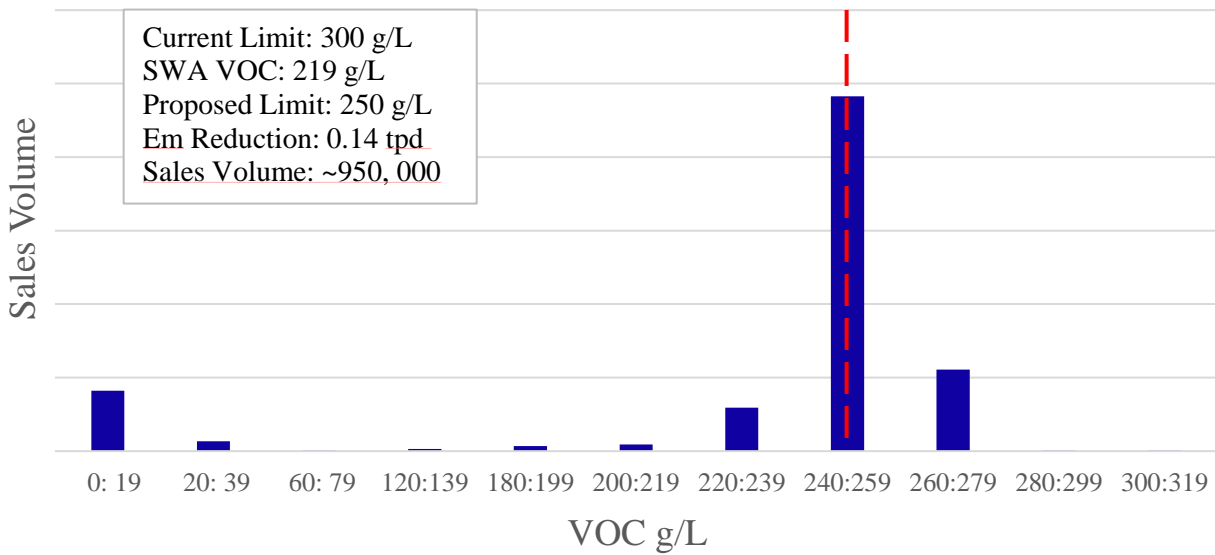
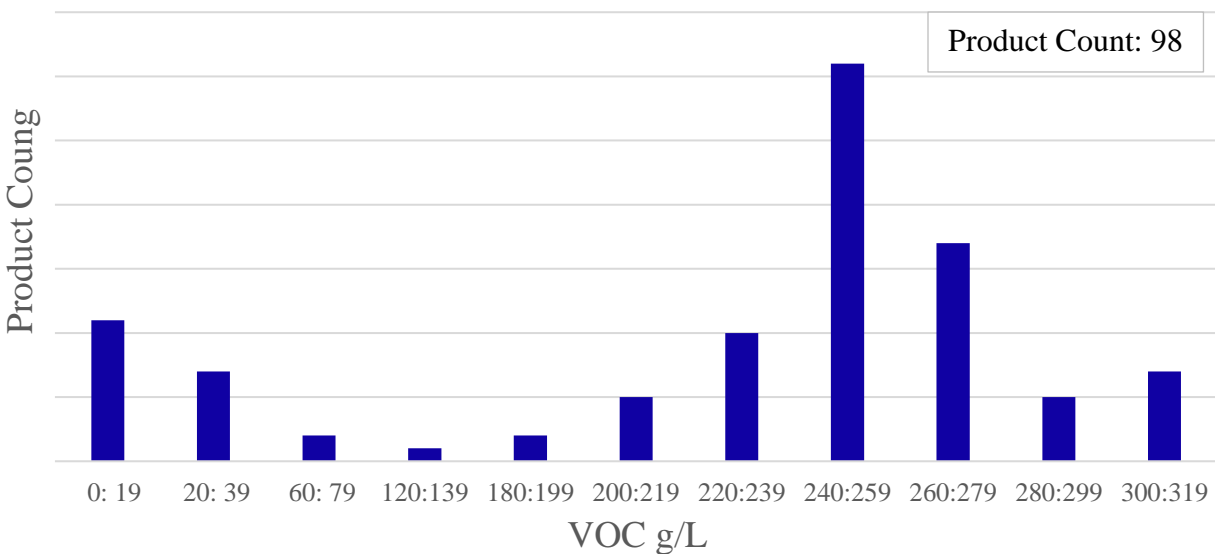


Figure 11: All Other Roof Sealant Product Count



Sealant – Architectural – Single-Ply Roof Membrane Sealants

Single-Ply Roof Membrane Sealants are divided between very low VOC content water-based, 100 percent solids technology, and solvent-based technologies, including exempt solvent-based products with VOC contents between 170 and 250 g/L. This category includes specialized sealants, such as waterproofing mastics. The overall volume is much lower than All Other Roofing Sealant products. The proposed VOC limit is 250 g/L. Staff proposed a future technology assessment to determine if sub-categorization for this category are warranted.

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The table and two figures below show a list of future compliant products and sales volume and product count distributions.

Table 9: Single- Ply Roof Membrane Sealants Less Than Proposed VOC Limit

Product Name	VOC Content (g/L)	Notes
Carlisle Sure-Seal 2 Part Pourable Sealer	<100	Substrates must be primed
Carlisle Universal Single-Ply Sealant	<100	
Carlisle Sure-Seal One Part Pourable Sealer	<100	Substrates must be primed
Carlisle White One Part Pourable Sealer	<100	EPDM/TPO Substrates must be primed
Firestone Pourable Sealant S-10	<100	
Firestone FillGard Pourable Sealer	<100	
Firestone FillGard M Pourable Sealer	<100	
JM EPDM/PVC Pourable Sealer	<100	
JM TPO Pourable Sealer	<100	
Sika Sarnafiller (Chemlink Pro Pack)	<100	
Sika Sikaflex - 11FC	<100	Substrates must be primed
Sika Sikaflex - 1a	<100	
GAF EverGuard Grey Pourable Sealant (A and B)	<100	
Seaman FTR 101	<100	
Durolast DURO-CAULK PLUS	<100	
Durolast Pitch-Pan Filler	<100	
Tremco TremSeal S	<100	May require use of primer or toluene wipe
Tremco TremSeal Pitch Pocket Sealer	<100	May require use of primer
Tremco SOLARGARD Seam Sealer	<100	
Mule-Hide Universal Single Ply Sealant	<100	
Mule-Hide Pourable Sealer	<100	Substrates must be primed
Mule-Hide One-Part Pourable Sealer	<100	Substrates must be primed
Proposed:	250	

Figure 12: Single- Ply Roof Sealant Sales Volume

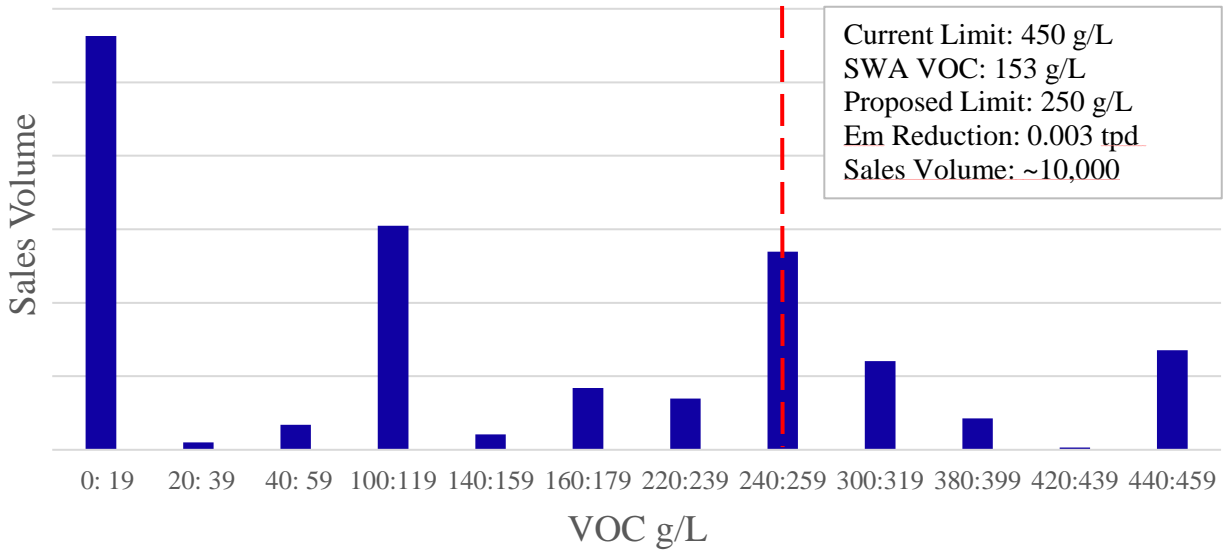
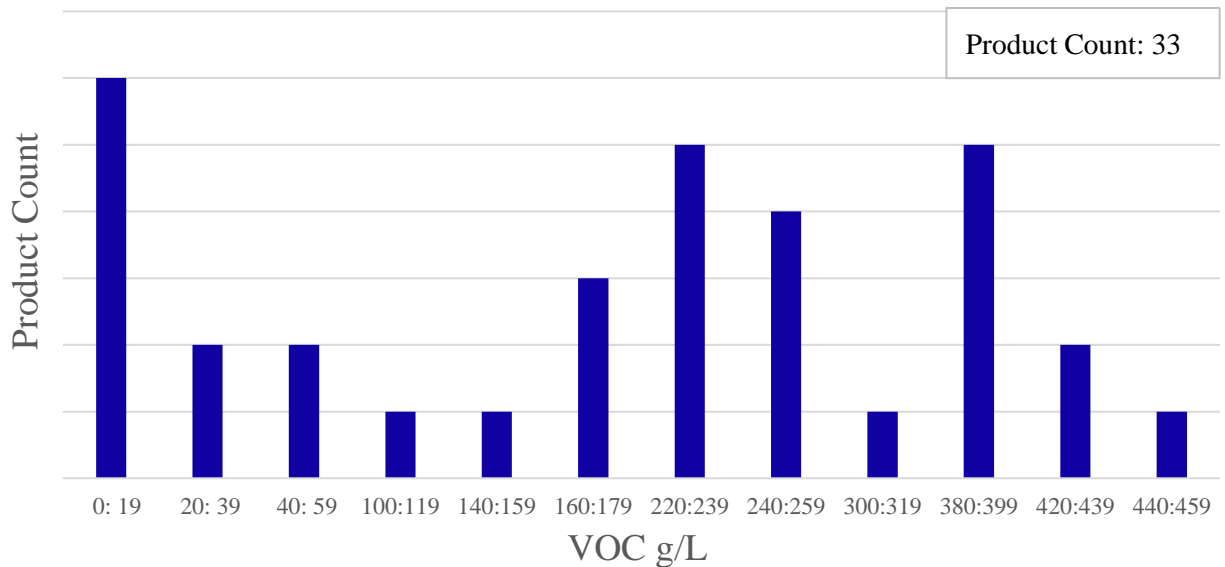


Figure 13: Single- Ply Roof Sealant Product Count



Sealant – Architectural – All Other Architectural Sealants

All Other Architectural Sealants includes all sealants, except roofing sealants, used during the construction, maintenance, or repair of building structures and their appurtenances. Most products offered for sale have very low-VOC content. The most popular products have somewhat higher VOC content. Combined with the very large volume of Architectural Sealants sold, the VOC emissions from this category remains substantial. Most of the reviewed products are water-based,

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silicone-based, or high solids products with very low VOC content. The proposed limit for this category is 50 g/L.

The table and two figures below show a list of future compliant products and sales volume and product count distributions.

Table 10: All Other Architectural Sealants Less Than Product VOC Limit

Product Name	VOC Content (g/L)
BOSS 370 HVAC/R Silicone Sealant	29
C.R. Laurence M66	9
Color Rite ASC	22
DAP Alex Plus Clear	44
Franklin International Titebond All Purpose	14
Franklin International Title Multi-Purpose 100% Silicone	29
Henry HE925B	10
Kel Kem Red Hi Temp Silicone	32
Mapeflex P1	25
Mapei Planibond JF	36
OSI Greenseries Flameseal	33
OSI Greenseries SC-175	45
Project 1 6000-6500	28
Surebond SB-188	30
White Lightning MaXimum Paintable Polymer Sealant	30
White Lightning WL30060	45
Proposed:	50

Figure 14: All Other Architectural Sealants Sales Volume

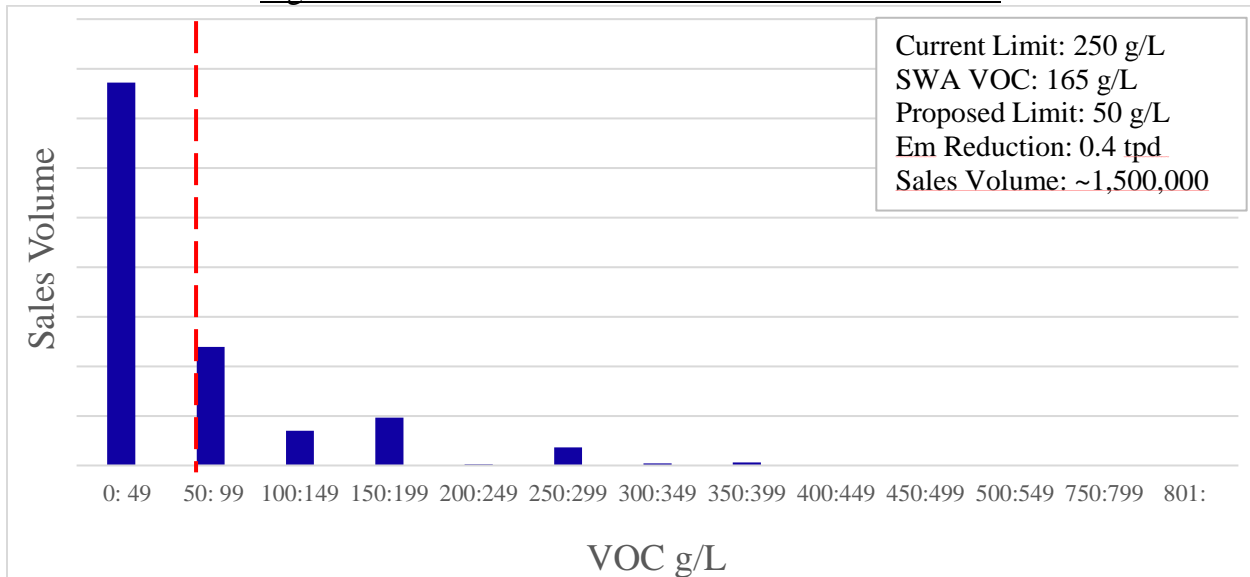
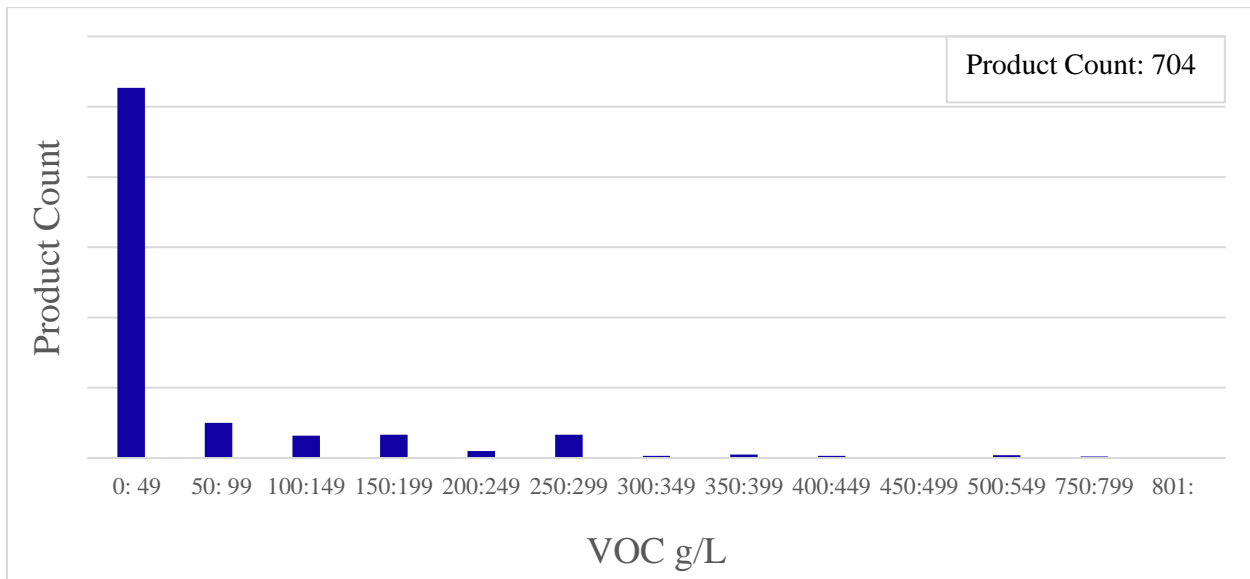


Figure 15: All Other Architectural Sealants Product Count



Sealant – All Other Sealants

All Other Sealants includes sealants that are not for architectural applications or roadway applications. The current limit is higher than the default category of 250 g/L, which can lead to rule circumvention. In addition, there is a large number of products formulated below the proposed limit.

The table and two figures below show a list of future compliant products and sales volume and product count distributions.

Table 11: All Other Sealants Less Than Proposed VOC Limit

Product Name	VOC Content (g/L)
3M PN08609 3M SUPER FAST URETHANE BLACK	19
Stabond Corporation STASEAL 5000B	49
Color Rite, Inc Color Rite Acrylic Caulk/Sealant	20
3M PN08361 URETHANE SEAM	93
BASF Corporation MasterSeal 900 Stan	0
3M PN08308 3M HEAVY BODIED SEAM SEAL 200ML SYR	12
3M PN08310 3M(TM) BARE-METAL SEAM SEALER BEIGE 200 ML	14
3M PN08500 ALL AROUND AUTOBODY	22
3M PN08360 URETHANE SEAM SEALER	129
Gaco Western LLC F183M (B-Side)	66
3M PN08369 3M MSP Seam Sealer White 310mL	141
3M PN08370 3M MSP Seam Sealer Gray 310mL	41
Gaco Western LLC F5500PLT (B-Side)	24
3M PN08509 BDG & GLZG CPD BLK	129
Proposed:	250

Figure 16: All Other Sealants Sales Volume

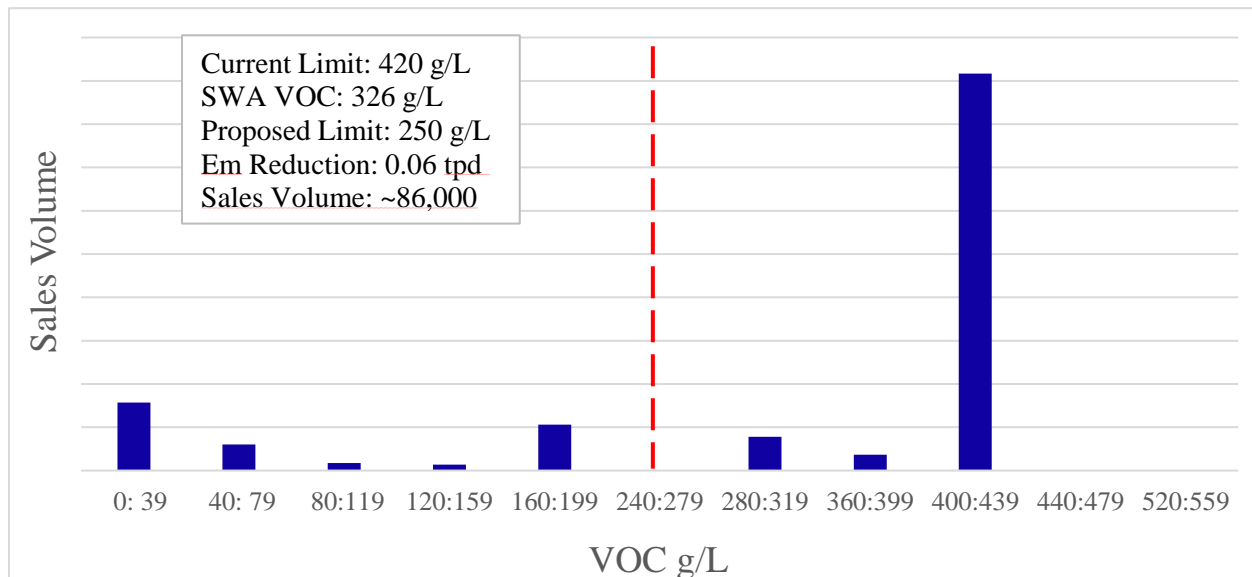
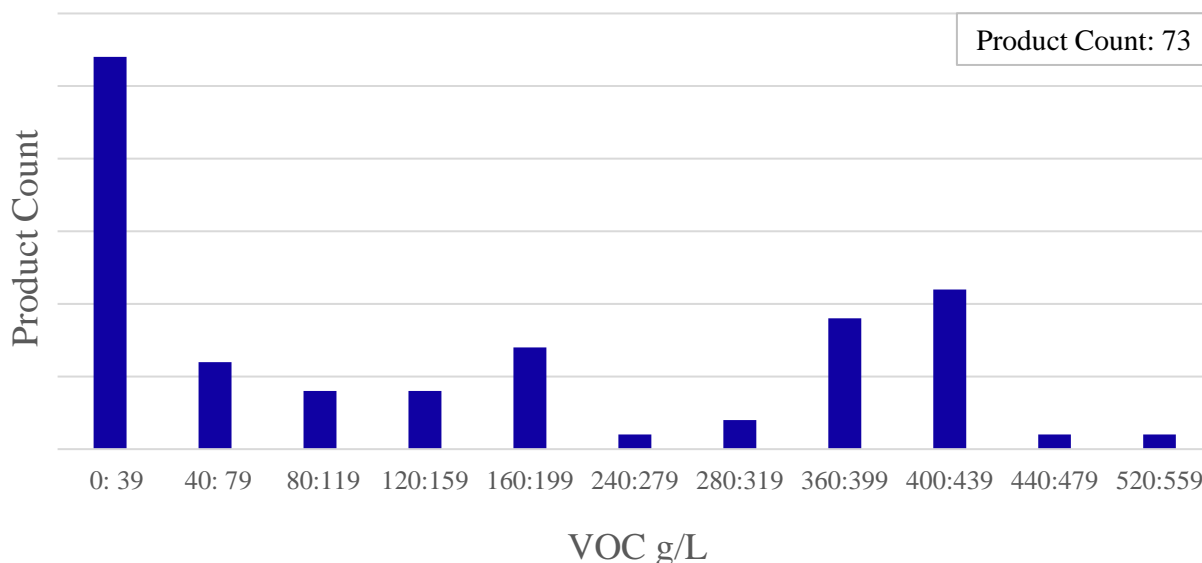


Figure 17: All Other Sealants Product Count



Proposed VOC Content Limits

The proposed changes to VOC limits for regulated products are provided in the table below. The proposed limits will go into effect on or before January 1, 2023. There are several categories where the effective date is proposed for January 1, 2023 to allow additional time for product reformulation. Technology assessments are proposed for Plastic Welding Cement categories, Foam Insulation, Foam Sealants, Roofing categories, and Top and Trim Adhesives. The proposed changes in plastic welding cement categories, which include ABS to PVC Transition Cement, CPVC Welding Cement, and PVC Welding Cement, require additional time for reformulation that not only includes a reduction in VOC content but reevaluation of performance according to ASTM standards. Because the VOC reductions are contingent on changes to the ASTM standards, staff is proposing to conduct a technology assessment near the proposed effective date. Some stakeholders support the proposed VOC limits for Foam Sealants, but due to the limited number of products at the proposed limit, staff will conduct a technology assessment to determine feasibility near the proposed effective date. Due to the complicated regulatory history with the Top and Trim category, staff is proposing a technology assessment for this category. Staff will also conduct a technology assessment for roofing categories, which include Single-Ply Roof Membrane Adhesive, Single-Ply Roof Membrane Adhesives, All Other Roof Adhesives, and All Other Roof Sealants, to allow staff to work with industry to assess their request for specified subcategories to be defined, evaluated, and created.

Since the SCAQMD is an extreme nonattainment area, the EPA reviews our regulations to confirm that we meet RACM/BACM requirements. The EPA identified four categories that do not meet the RACM/BACM requirements: cellulosic plastic welding, SAN welding adhesive, reinforced plastic composite adhesives, and waterproof resorcinol glue. The San Joaquin Valley APCD (SJVAPCD) regulates cellulosic plastic welding and SAN at 100 g/L; those products are regulated under the Other Plastic ~~Cements~~ Welding Cements category with a 250 g/L VOC limit in the current rule language. The SJVAPCD also regulates reinforced plastic composite adhesives at 200 g/L, which is regulated under the default 250 g/L VOC limit in the current rule language. The Bay

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Area AQMD (BAAQMD) regulates waterproof resorcinol glue at 170 g/L, which is also regulated under the default 250 g/L VOC limit in the current rule language. Staff is proposing to carve out categories for reinforced plastic composite adhesives and waterproof resorcinol glue with the lower-VOC limit. In addition, staff is proposing to lower the ~~lower~~-VOC limit for Other Plastic ~~Cement~~ Welding Cements to 100 g/L to address the cellulosic plastic welding and SAN categories. Staff is not projecting any emission reductions from these changes, as the sales volume for these products are minimal.

Table 12: Regulated Product Proposed VOC Content Limit

Category	VOC Content Limit (g/L)			
	Current	Upon Rule Adoption	1/1/2019	1/1/2023
Adhesives				
Architectural Applications				
Building Envelope Membrane Adhesive	250			
Roofing				
Single-__Ply Roof Membrane Adhesive	250			200*
All Other Roof Adhesives	250			200*
Wood Flooring Adhesive	100			20
All Other Outdoor Floor Covering Adhesive	150		50	
Edge Glue Adhesive	250			
Plastic Welding Cement				
ABS to PVC Transition Cement	510			3425*
CPVC Welding Cement	490			400*
PVC Welding Cement	510			425*
All Other Plastic Welding Cements	250		100	
Rubber Vulcanization Adhesive	250	850		250
Top and Trim Adhesive	250	540		250
Waterproof Resorcinol Glue	250		170	
Substrate Specific Adhesive Applications				
Reinforced Plastic Composite	250		200	
Sealants				
Architectural				
Clear, Paintable, and Immediately Water Resistant Sealant	250	380		250
<u>Foam Insulation</u>	250			50*
Foam Sealant	250			50*
Grout	250	65		
Insulating Foam Sealant	250	50		

Category	VOC Content Limit (g/L)			
	Current	Upon Rule Adoption	1/1/2019	1/1/2023
Non-Staining Plumbing Putty	580	150		50
Potable Water Sealant	250	100		
Roofing				
Single Ply Roof Membrane Sealant	450			250*
All Other Roof Sealants	300			250*
All Other Architectural Sealants	250		50	
All Other Sealants	420			250
Adhesive Primers				
Pressure Sensitive	200	785		
Vehicle Glass	250	700		

* Subject to Technology Assessment

Regulated Product Categorization

Previously, the most restrictive clause for regulated products only applied to other source specific rules. The requirements are expanded to include the most restrictive limit included in Table 1 of Rule 1168, excluding the substrate specific adhesives.

Sell-Through Provision

Sell-through and use-through provisions are included in the proposed rule to allow manufacturers and suppliers to deplete regulated products in the warehouse or on the shelf. The provision also allows users to use up remaining product rather than having to dispose of them. The sell-through and use-through effective dates should accommodate the typical three--year shelf life of these regulated products.

Disposal of Regulated Products and VOC-Laden Cloth

The requirements are clarified to specify that disposal provisions apply to all regulated products and VOC-laden cloth or paper, not just products used for stripping cured adhesives or sealants.

Solvent Cleaning Operations

The requirements are clarified that all cleaning operations are subject to Rule 1171 – Solvent Cleaning Operations.

Transfer Efficiency

The requirements are clarified. The exclusion for high viscosity regulated products is moved to the exemption subdivision, paragraph (i)(6).

Control Devices

The requirement for the use of air pollution control equipment to comply with the rule is made consistent with other VOC rules. Specifically, the control device must collect at least 90 percent

by weight of VOC emissions and reduce collected emissions by at least 95 percent by weight for an overall minimum efficiency of 85 percent by weight.

Storage and Mixing

The proposed rule requires that containers for storage or mixing shall remain closed except while in use. Containers of products with VOC content in excess of the limits may not be stored on premises except for use in approved air pollution control equipment or to be sold and used outside the SCAQMD.

Test Methods (e)

Methods

Staff included clarification in the test method section before the list of test methods. Rule 1168 applies to many product types and lists several VOC test methods, not all of which are appropriate for each type of product. Staff expanded paragraph (e)(1) to explicitly state that a test method will not be used if the test method specifically states it is not appropriate for a product type or product chemistry. Examples includes SCAQMD Method 313, which specifically states it is not to be used for Ultraviolet/Electron Beam (UV/EB)-cured coatings, and Subpart PPPP of 40 CFR Part 63, which states it is not appropriate for one-part moisture cured urethane adhesives. In addition, language was added to clarify how the SCAQMD addresses samples that could be analyzed by several different test methods. This rule applies to diverse products and chemistries and many products are analyzed by a series of test methods to determine the most appropriate test method. The decision is based on product type (adhesive or sealant, one-part or two-part, reactive products or non-reactive), VOC content, and sometimes the specific chemistry (energy curable products, cyanoacrylate adhesives). For some products, the choice of test methods is very clear, PVC Welding Cement is always analyzed by SCAQMD Method 316A. For some products however, staff must go through it is a multi-step process to determine the most appropriate VOC test method. There is only one VOC method that is most appropriate for each product. SCAQMD planning and laboratory staff will work with the stakeholders to develop a guidance document to clarify which products ~~types~~ are tested by which test method and ~~if deemed necessary,~~ will seek Governing Board approval for the guidance document.

Three additional VOC content methods are also included in the proposal, and SCAQMD Method 302, is removed. SCAQMD Method 313 - Determination of Volatile Organic Compounds (VOC) by Gas Chromatography-Mass Spectrometry (11) is included for high water content or high exempt solvent content regulated products. ASTM Test Method 6886 (Standard Test Method for Determination of the Weight Percent Individual Volatile Organic Compounds in Waterborne Air-Dry Coatings by Gas Chromatography) is included as a comparable method to SCAQMD Method 313. For compliance purposes, the SCAQMD laboratory will rely on the more rigorous M313, and provide a guidance document to explain the differences between the two methods such that a manufacturer utilizing M6886 will be aware of how their results could differ from results obtained by the SCAQMD laboratory. Both methods provide improved accuracy for verifying low-VOC regulated products, and is intended to improve compliance determinations and facilitate the use of regulated products with VOC contents of 50 g/L or less. For reactive adhesives, Appendix A to Subpart PPPP of 40 CFR Part 63 – Determination of Weight Volatile Matter Content and Weight Solids Content of Reactive Adhesives (12) is included. This method is a sandwich method where the adhesive cures between two substrates to prevent moisture in the atmosphere from competing

with the reaction taking place in the adhesive. The method uses a relatively thick layer of adhesive so it is only appropriate for products applied at a similar film thickness. This method is not appropriate for sealants as they are exposed to ambient air during cure. Reactive sealants are tested using SCAQMD Method 304 using a 24-hour induction time prior to placing the sample in the oven.

Staff also added a clause for equivalent test methods, which allows for other methods to be used once they have been reviewed to be equivalent by the Executive Officer, CARB, and the U.S. EPA. This allows for some flexibility for new innovative test methodologies for emerging technologies. An example is the test method development underway for foam sealants.

In regard to ASTM 7767 *Standard Test Method to Measure Volatiles from Radiation Curable Acrylate Monomers, Oligomers, and Blends and Thin Coatings Made from Them*, the test method for estimating the VOC content of thin-film energy curable products, it was included in the definition of energy curable adhesives and sealants instead of the test method (enforcement) section. This is because a third party laboratory, such as the SCAQMD laboratory, cannot independently perform this analysis and have confidence that the results accurately reflect the composition of the sample. The method is not performed on the fully formulated product, but estimates the VOC by measuring the VOC content of the reactive components of the product with a specified photoinitiator. If enforcement staff collected a sample of a thin-film energy curable product, they would have to ask the manufacturer to supply the raw materials and a photoinitiator in order to perform the method. This would not be adequate to confirm compliance. If compliance staff were to come across such a product in the field, they would contact the manufacturer and ask for formulation data, including the results of ASTM 7767 if used. SCAQMD laboratory staff could speciate the sample on the GC/MS to confirm some of the raw materials contained in the formulation data to qualitatively confirm the veracity of the formulation data. To be clear, the GC/MS VOC Method 313, which can be used to quantitate the VOC of certain adhesives and sealants, cannot be used for energy curable products due to their reactive nature. At this time, staff is not aware of any thin-film energy curable adhesives or sealants but when these products became prevalent, staff will work with the manufacturers to develop or enhance a method for the analysis that can be used to independently verify the compliance of these products.

Administrative Requirements (f)

Labeling

VOC content and date of manufacturing are proposed for inclusion on the container labels of regulated products. It is acceptable to list the VOC content as the maximum VOC allowed for the regulated product category or the maximum VOC anticipated for a product instead of the specific VOC to account for batch-to-batch variations. The proposed effective date for the labeling requirement is January 1, 2019. Products in containers one fluid ounce or less and products solely subject to the CARB CPR are exempt from this provision. The labeling requirements are consistent with the OTC Model Rule. Products that are subject to the CARB CPR are regulated by the weight percent VOC in a product and not by the grams of VOC per liter of regulated product. Those products that may be subject to both the CARB CPR and this rule would not be required to include the grams per liter VOC on the label but would be required to maintain supplemental documentation (e.g., product datasheet, via the manufacturer's webpage), readily accessible by

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SCAQMD staff, that included the grams per liter VOC. The grams per liter VOC has to include all LVP-VOC compounds that are exempted in the CARB CPR.

Several other labeling provisions were added in this section for specific categories that have higher VOC limits to account for the increases in the VOC limits justified by stakeholders. These categories are as follows:

- ABS to PVC Transition Cement
- Pressure Sensitive Adhesive Primer
- Rubber Vulcanization Adhesives
- Top and Trim Adhesive

Reporting Requirements

The 2013/2014 survey data indicated that the emission inventory for adhesives and sealants is higher than previously estimated (4.1 tpd versus 10.5 tpd). Having strong inventory data is critical for planning purposes, emission reduction calculations, and understanding the products that are being used within our jurisdiction. To achieve this, the proposed rule will require manufacturers and private labelers of regulated products to submit a Quantity and Emission Report (QER) every three years, from the years 2019 to 2025; and every five years, thereafter, until, and including 2040 as demonstrated in the table below. Staff is proposing for each report to include the previous two years of sales to provide a more complete inventory but address stakeholder feedback regarding the challenges of reporting past sales data. The QERs will have the reported years separated, e.g., the 2017 sales must be distinguished from the 2018 sales. Staff will develop spreadsheets, similar to those provided for the 2013/2014 survey for reporting purposes to assist those subject to reporting.

Table 13: Reporting Timeline

Reporting Deadlines		Reported Years
Manufacturers or Private Labelers	Big Box Retailers & Distribution Centers	
September 1, 2019	May 1, 2019	2017, 2018
September 1, 2022	May 1, 2022	2020, 2021
September 1, 2025	May 1, 2025	2023, 2024
September 1, 2030	May 1, 2030	2028, 2029
September 1, 2035	May 1, 2035	2033, 2034
September 1, 2040	May 1, 2040	2038, 2039

The QER for regulated products will include the following information:

- Product manufacturer (as labeled)
- Product name and code
- Applicable Rule 1168 category
- The grams of VOC per liter of regulated product (less water and exempt solvents)

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- The grams of VOC per liter of material
- ~~Utilization of Sell Through Provision~~
- ~~Designation as to whether or not the product is Low Solids~~
- Whether the product is waterborne or solvent based)
- Total annual volume sold into or within the District, including products sold through distribution centers located within or outside the District, reported in gallons of container size
- Whether the product was sold under a specific provision of the rule:
 - Sell-through provision
 - Low-Solids Pproduct
 - Exemption under paragraph (i)
 - Complying with subparagraph (c)(7) – Control Device
 - Complying with subparagraph (c)(8) – Alternative Emission Control

As of January 1, 2000, the Health and Safety Code 41712(h) allows districts to regulate aerosol adhesives. Staff is not exercising the District's authority and is maintaining the exemption for aerosol adhesives and aerosol adhesive primers due to the fact these aerosols are already regulated by CARB, which is currently surveying the industry and may consider lower VOC content limits in the near future. In addition, there is currently insufficient data on quantity and emissions from these types of products used in the District. To address the lack of inventory data, staff is proposing to require manufacturers and private labelers of these exempted aerosol adhesives to submit reporting for products shipped into the District so the SCAQMD can quantify the number and types of aerosol adhesive products that are being used within our jurisdiction. Those manufacturers and private labelers of these products would also be required to submit a QER according to the reporting timeline in the table above.

The QER for aerosol adhesives and aerosol adhesive primers will include the following:

- Product manufacturer (as listed on the label)
- Product name and code
- Percent VOC by weight
- Total weight sold, including products sold through distribution centers located within or outside the District
- Container size of product

The exemptions for aerosol adhesives and primers does not include adhesives and primers that are applied with the use of refillable pressurized spray systems, as stated in subparagraph (c)(9). The aerosol adhesive exemption specifies that the exemption only applies to non-refillable aerosol spray systems.

The proposal would also require that Big Box retailers and distribution centers report to the manufacturer/private labeler, according to the Reporting Timeline in the table above, to assist the manufacturers or private labelers in providing accurate data to the District.

The QER for Big Box retailers and distribution centers will include the following:

- The manufacturer or private labeler's product name and code

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- The quantity of each regulated product, aerosol adhesive, and aerosol adhesive primer distributed into the District.

In addition to the reporting described above, facilities that use regulated products under the 55 gallon per year exemption in paragraph (i)(7) shall provide the volume purchased and the name and address of the company where the products were purchased from. This will allow the District to better assess the continued need for the exemption by product category and improve the enforceability of the annual limitation. The annual report submitted by the facilities utilizing the 55 gallon per year exemption will include the following:

- Product manufacturer (as listed on the label)
- Product name and code
- The grams of VOC per liter of regulated product (less water and exempt solvents)
- The grams of VOC per liter of material
- Unit size of product
- Total volume purchased, in gallons
- The name and address of the company or retailer where the products were purchased

Lastly, manufacturers or suppliers of regulated products shall maintain records of VOC content determination. VOC content determination may be calculated based on product formulation or by laboratory analysis. The data used in determining VOC content must be retained for three years and be made available upon request. VOC content values of 20 g/L or lower may be reported as “20 g/L or less”. Otherwise, the calculated or analyzed VOC content shall be reported.

Staff included subparagraph (f)(4) on confidentiality of information that states that information submitted under the reporting requirements can be designated as confidential.

Prohibition of Sales and Use

Currently the regulation prohibits the sale and use of regulated products that contain chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene. The proposal will also expand this prohibition to include all Group II exempt solvents except volatile methyl siloxanes (VMS). Small, but non-negligible, quantities of VMS are widely used in silicone-based sealants.

The prohibition of sales does not apply to products reasonably assumed to be subject to the CARB CPR or to manufacturers or suppliers who inform their distributors in writing that the regulated product is not to be used in the District, and who maintain such notification letters for three years, available to the Executive Officer upon request. This is further explained in the Exemption section of this report.

The requirements in subparagraph (g)(1) were moved to subparagraph (c)(1) for clarity and consistency.

Exemptions

The provisions of the Exemption section, whether they were retained, newly proposed, or modified, have been rearranged and organized for clarity. Exemptions included in subdivision (b) Definitions, paragraph (c)(5) Transfer Efficiency, and subdivision (g) Prohibition of Sale and Use

were moved to subdivision (i) Exemption. The exemptions from specific requirements were grouped together and organized by subdivision for clarity.

The exemption for adhesive tapes, that was proposed in the definition of an adhesive was removed, as it is included in (i)(1)(b). The exemption for adhesive tapes and papers was included because those products do not have an appreciable VOC content. This exemption does not include primers for such products.

The proposed Prohibition of Sale section previously contained an exemption for products shipped, supplied, or sold to persons for use outside of the District, this was moved to (i)(1)(C). The exemption makes it clear that products shipped for use out of the District are exempt from all provisions of the rule, not just the prohibition of sale.

The subparagraph requiring manufacturers or suppliers of regulated product to maintain notification letters demonstrating due diligence in notifying those who are purchasing product, whether for resale or to the end-user, was also moved to the Exemption section. ~~District~~ Staff will not include specifications within the rule language to stipulate explicit requirements for a manufacturer, supplier, or distributor to demonstrate written proof that the regulated products exceeding the VOC limits set forth within the rule will not be sold or used within the SCAQMD's jurisdiction. Instead, staff will provide a guidance document on the District's webpage, which will provide options to demonstrate proof of exemption from this rule. Lastly, the provision with the proposed revision including a sunset date for those products containing methylene chloride was moved from the prohibition section to the ~~e~~Exemption section. Staff also proposed an exemption in section (i)(1)(E) to clarify that those distribution centers that do not ship regulated product, aerosol adhesives, or aerosol adhesive primers into the District are not subject to the provisions of this rule.

Staff initially proposed to replace the rule exemption of all aerosol adhesives with a limited exemption of 16 ounces per day determined on a monthly average. However, due to considerable stakeholder feedback, limited sales and emissions data for aerosol adhesives, and future limits on aerosols to be considered by CARB, staff decided to retain the current exemption but will require manufacturers or private labelers to report all aerosol adhesives and aerosol adhesive primers sold into the District.

Staff is also proposing an exemption for regulated products sold in quantities of one fluid ounce or less to mirror the similar size exemption from the CARB CPR for their regulated product.

Effective January 1, 2019, the 55 gallon per year exemption will no longer be available to users of Rubber Vulcanization Adhesives or Top and Trim Adhesives. These two categories of uses were nearly completely dependent on the exemption because no effective lower VOC content products were available. As noted in the VOC content limits discussion above, the proposed amendments include higher VOC content limits for these two categories temporarily to allow time for reformulation. As effective compliant products become available, the exemption is no longer necessary for these operations.

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Staff proposed exemptions in sections (i)(5)(D) and (i)(7), to address a high-VOC adhesive used in small volumes for critical infrastructure repair and exempting products that would not contain VOC, respectively.

The proposed rule maintains an exemption from recordkeeping, subdivision (d), for products that contain 20 g/L or less VOC content. The streamlined requirement is intended to be an incentive for users to switch to lower VOC regulated products.

Finally, as previously stated in this report, staff removed the proposed language from the Purpose and Applicability section regarding regulated products subject to the CARB CPR and included that clarification in the proposed eExemption section. Products that are one pound (16 fluid ounces) or less and have an applicable limit in the CARB CPR are not regulated by this rule unless they are incorporated into or used exclusively in the manufacture or construction of the goods or commodities, or used in pollution-generating activities at stationary sources, which include area sources, such as in manufacturing operations. Manufacturing is limited to the use of tools and labor to make things for sale. Where regulated by the CARB CPR, consumer and institutional uses of consumer product as well as repair and maintenance activities at manufacturing facilities of consumer products remain outside of the scope of Rule 1168. Examples of such activities include repair of machinery, building maintenance, and office supplies. The proposed language is written to explicitly state that those products with established VOC limits in the CARB CPR are exempt from the provisions of this rule.

KEY CONCERNS

Stakeholders have brought several concerns to staff's attention through working group meetings, comment letters, conference calls, and emails. Staff addressed many of those concerns and addresses formal comment letters later in this report. This section highlights those key concerns.

The CARB CPR and Rule 1168 Jurisdiction

Stakeholders were concerned with the proposed language in the Purpose and Applicability and Exemption subdivisions referencing the CARB CPR. The regulated industry felt the SCAQMD was expanding the scope of the rule and overreaching its regulatory authority by including consumer products. This concern is the result of a fundamental misunderstanding of the state and local regulation and default VOC limits in the current rule. ~~District s~~Staff is not proposing to expand its regulatory authority, but instead, is clarifying the rule to reflect how it is interpreted by the SCAQMD and CARB as detailed in the correspondence letter.

There are two key aspects of the misunderstanding: the default VOC limit in Rule 1168 and what products are not regulated by the CARB CPR. The current version of Rule 1168 contains a default VOC limit of 250 g/L in paragraph (c)(1). All adhesives that are not specified in the tables must meet that existing and default VOC limit. The proposed amended rule includes the default 250 g/L in the table of standards for several subcategories of adhesives as 'all other' limits (e.g. all other roof adhesives, ~~all other outdoor floor adhesives~~), but does not change current applicability and enforceable limit. To the second point, local air districts have the authority to regulate consumer products that are not regulated by the CARB CPR; therefore, any products that are exempted or do not have a VOC limit in the CARB CPR can be regulated by the local air districts.

Some stakeholders believed that products explicitly exempted or not specifically defined by the CARB CPR were also exempt from local air districts because they are consumer products and consumer products are regulated by CARB. However, consumer products not regulated by the CARB CPR can be regulated by the local air districts¹. Any adhesive or sealant not regulated by the CARB CPR fall under Rule 1168. If there is not a specific category in the table of standards, then the product is subject to the default VOC limit. A clear example of this longstanding regulatory construct is pipe cements, which are not included in the CARB CPR so use of those products, regardless of size, where they are purchased, how they are marketed, or who uses them, is subject to Rule 1168.

Reporting Requirement

Another key concern expressed by stakeholders is the reporting requirements. Stakeholders expressed that annual reporting is too burdensome. Staff worked to establish a balance between obtaining the necessary data while minimizing the impact on the regulated industry.

Accurate inventory data is critical for planning and the majority of emissions from adhesives and ~~sealers~~ sealants come from consumer products not subject to the CPR and small facilities not subject to the SCAQMD AER program. Both of these use categories are not typically subject to SCAQMD permitting or recordkeeping requirements. Thus there is very limited data available to determine the adhesive emission inventory, product availability, or product trends.

To address the lack of data, the SCAQMD conducted a voluntary survey of product sales as part of rule development in 2013. The initial results from the survey were somewhat inconclusive because of limited participation. Further steps were taken to require some larger adhesive and sealant manufacturers to provide sales information. The information collected indicates that the emission inventory is significantly higher ~~—approximately 300% greater—~~ than the 2016 AQMP estimate. Additionally, there were some categories where the sales data showed some trends towards lower VOC adhesive and sealant technologies, particularly in products used for architectural and construction applications.

The mandatory reporting demonstrated clear benefits: enhanced understanding of the primary categories contributing to adhesive and sealant emissions and the widespread availability of low-VOC products in many applications. Stakeholders participating in the rule development process acknowledged the usefulness stating, “With regard to the proposed reporting and recordkeeping provisions, ASC and its members understand South Coast’s interest in developing some type of mandatory reporting requirements for companies that are marketing their products in the district. The question remains should the type of detailed reporting...be required on an annual basis...A more cost-effective approach would be a requirement that companies participate in such reporting on a five-year schedule or one year prior to the District undertaking a revision to the rule.”² Similarly, the American Coatings Association stated, “While the ACA recognizes the importance of a meaningful and accurate database to determine the status of current adhesive and sealant

¹http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1168/carb_cpr_correspondence.pdf?sfvrsn=4

² Adhesive and Sealant Council letter to SCAQMD, January 14, 2014

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technology, it must also be recognized that annual reporting is extremely costly and burdensome to manufacturers...Consequently, ACA recommends that SCAQMD consider a reporting cycle of three (3) years. Reporting every 3 years will allow the SCAQMD sufficient data on these products to monitor and track technology trends sufficiently.”³

SCAQMD staff has responded to these industry recommendations by proposing to require manufacturer reporting initially on a three-year cycle transitioning to a five-year cycle. This strikes a balance between the SCAQMD’s need for accurate emission information and the burden of reporting on manufacturers. In addition, the reporting requirement is proposed to sunset ~~at~~ in 2040.

Some stakeholders have requested that as an additional incentive, reporting should not be required of products with an ultra-low VOC content of less than 20 g/L. However, without the reporting data provided by the manufacturers of these products, it would not be possible to determine accurate emission inventories or observe trends in the use of ultra-low VOC content products. Alternatively, staff has provided an incentive by exempting all other requirements for businesses using ultra-low VOC content products. This would encourage the use and sales of ultra-low VOC content products ideally offsetting the costs of reporting.

Staff tried to find a compromise that would ~~give staff provide~~ sufficient information for planning and inventory but lessen the burden on the regulated industry. The following demonstrates the evolution of the reporting requirements proposed by staff to reach a consensus:

Staff Proposal:	Industry Feedback:
Initial Proposal: Annual Reporting 2018 – 2020 Bi-Annual Reporting No sunset date Indefinite Reports	Bi-Annual Reporting but 2 years data
Second Proposal: Bi-Annual Reporting 2018 – 2024 Then Every 5 years Indefinite Reports	Report Every 3 years, include sunset date
Third Proposal: Report Every 3 years 2019 – 2025 Then Every 5 years Reports Include Prior 3 years sales 6 Reports in 21 years	Report Every 5 years It is challenging to report older data (three years of data especially going back to 2016)
Final Proposal: Report Every 3 years 2019 – 2025 Then Every 5 years Reports Include Prior 2 years sales	

³ American Coatings Association letter to SCAQMD, January 16, 2014

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6 R _e ports in 21 years Sunset 2040	
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As a comparison to the proposed reporting, the following table compares the reporting requirements in other SCAQMD VOC regulations:

PAR 1168	Rule 1113/314	Rule 1143
Fees		
None	~ \$2 million annually	None
Report Frequency		
Every 3 years 2019 – 2025 Every 5 years 2025 - 2040 6 R _e ports in 21 years	Annual	Annual
Sunset Date		
2040	None	None
Approximate Emission Inventory		
10.5 tpd	11 tpd	7.3*

*Estimated inventory projected for 2014 when Rule 1143 was adopted with annual reporting requirements.

Foam Insulation

The American Chemistry Council requested that insulating foams should not be included in the rule amendments because insulating foams are not considered “sealants” by industry, as their *primary* purpose is not to fill a gap, but rather, to insulate. Staff acknowledges that these products are used for insulation but to serve that function, they must *fill the gap* in the wall cavity; therefore, they meet the current sealant definition. The proposed amendment addresses this uncertainty by including a definition for foam insulation. To address their concern, staff consulted the CARB Consumer Products Regulation and the Ozone Transport Commission Model Rule for Consumer Products, both of which include “weatherproof gaps” in the definition of a sealant, which further supports the treatment of foam insulations as sealants. Staff is proposing to harmonize the definition of sealant in PAR 1168 with the CARB Consumer Products Regulation and the Ozone Transport Commission Model Rule, as stakeholders have requested; thus further clarifying that insulating foams fall under Rule 1168.

PVC Welding Cement Proposed Limit

A concern was raised regarding the current availability of PVC Welding Cements meeting the proposed VOC limit of 425 g/L. Staff based the proposed VOC limit on two products that are currently available in the marketplace. The pipe welding industry is dominated by four major manufacturers; two of the leading manufacturers have commercial products at the proposed VOC limit currently available at retail outlets. For example, Oatey

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reformulated their All Purpose Cement from 510 g/L to below 325 g/L in 2016. All Purpose cements are used to weld ABS, CPVC, and PVC. In addition, there is a product currently available to the irrigation market for PVC and CPVC that is below the proposed future limit.

The proposed VOC limit reductions are not effective until January 1, 2023, allowing five years for product reformulation, testing, and certification. The proposed rule also includes a technology assessment so staff can evaluate the progress of the reformulation efforts and report to the Board.

EMISSION INVENTORY

The emission inventory for the proposed rule was determined by reviewing the 2016 AQMP inventory emissions for adhesive and sealants, reviewing reported emissions for 2016 as part of the District's Annual Emissions Report program, and by examining survey data provided by adhesive and sealant manufacturers and suppliers in 2013.

According to the 2016 AQMP, the 2017 emissions from adhesives and sealants subject to the rule are estimated to be 4.1 tpd. The VOC emissions reported through the AER program in 2015 totals 0.1 tons per day, or approximately one percent of overall emissions subject to the rule. The majority of the emissions come from small volume users including manufacturing, commercial, and consumer applications. Architectural uses appear to be the most prevalent use with 84 percent of reported products falling into one of the architectural categories.

Since the survey only provided information on a fraction of the products sold in the SCAQMD, staff scaled the survey data to estimate the contribution by category. In addition, the emissions were grown based on population growth to reflect the current inventory.

Daily VOC emissions estimated from all sources are 10.5 ~~tons per day~~tpd as detailed in the table below.

Table 14: Estimated VOC Emission Inventory

Emission Source	Emissions (tons per day)	Total Sales
Adhesives	6.0	7,200,000
Sealants	4.5	3,800,000
Total	10.5	11,000,000

CONTROL TECHNOLOGY

Compliance with PAR 1168 is expected to be met with manufacturers reformulating regulated products by substituting certain chemicals with other chemicals that contain less VOCs, less or no toxics, and no stratospheric ozone-depleting compounds. The manufacturers will have considerable flexibility, and may use any compliant alternative reformulation, in order for their product to meet the VOC limits in PAR 1168. Physical modifications to or new installations of manufacturing equipment, including the installation of control equipment, would not be expected to be needed in order to reformulate products.

For certain categories, there are existing products that meet the proposed lower VOC content limits so reformulation is practicable. For some other categories, technology-forcing reformulation will be necessary and in those cases, the proposed rule provides ample time (e.g., five years) and possibly a technology assessment to determine the status of the ongoing reformulation efforts. Finally, end-users can comply with the rule using alternative options such as the 55-gallon per year exemption; control devices, such as emission collection systems; or an Alternative Emission Control Plan.

EMISSION REDUCTIONS

The proposed rule will reduce the VOC content limits for most of the architectural adhesive and sealant categories, including foam sealants. The proposal includes new VOC content limits for Waterproof Resorcinol Glue, Plastic Welding Cements, and Reinforced Plastic Composite Adhesives. Also proposed is to increase the VOC content limit for Top and Trim Adhesives and Rubber Vulcanization Adhesives.

In the case of Top and Trim Adhesives, District staff found that emissions increased from the use of these products compared to the estimated reductions proposed in previous versions of the rule. Since 2003, the VOC limit reduction to 250 g/L was delayed twice to allow manufacturers to reformulate. Rather than decrease emissions from this category by 0.2 tpd, the 250 g/L limit in conjunction with the volume usage exemption increased emissions by 0.04 tpd. To address this migration to exempted products, staff is proposing to reinstate the 540 g/L limit and exclude Top and Trim Adhesives from the 55 gallon per year exemption. This will allow manufacturers time to reformulate to 250 g/L by 2023, and allow the District to maintain the emissions reductions already claimed in previous versions of the rule.

The emission reductions are estimated using the scaled emission inventory data along with SWA information collected from the survey. SWA material VOC content is determined by reviewing available products. The emissions reductions are calculated by assuming that the material VOC content of those above the proposed limit will be reduced to the same SWA material VOC content of the products that already meet the proposed limit. The estimated emission reductions are presented in the table below.

Table 15: Estimated Emission Reductions from PAR 1168

Category	Emission Reductions (tpd)			
	Upon Adoption	2019	2023	Total Reduction (tpd)
All Other Architectural Sealants		0.37		0.37
Clear, Paintable, and Immediately Water Resistant Sealant			0.02	0.02
CPVC Welding Cement			0.01	0.01
Foam Sealant			0.23	0.23
All Other Roof Adhesives			0.04	0.04

Category	Emission Reductions (tpd)			
	Upon Adoption	2019	2023	Total Reduction (tpd)
All Other Roof Sealants			0.14	0.14
All Other Sealants			0.06	0.06
PVC Welding Cement			0.18	0.18
Rubber Vulcanization Adhesive			0.06	0.06
Single_Ply Roof Adhesive			0.05	0.05
Single Ply Roof Membrane Sealant			0.003	0.003
Top and Trim Adhesive	-0.21		0.21	
Wood Flooring Adhesive			0.24	0.24
Totals:	-0.21	0.37	1.16	1.38

The emission reductions from the proposed amendments will be 1.4 ~~tons per day~~tpd by 2023.

PAR 1168 will partially implement 2016 AQMP measures CTS-01 and MCS-01.

COST-EFFECTIVENESS AND INCREMENTAL COST-EFFECTIVENESS

The cost-effectiveness is estimated at \$12,400 per ton of VOC reduced, which is in the range of recently amended VOC rules and less than \$30,000 per ton of VOC cost-effectiveness in the 2016 AQMP. The detailed analysis can be found in the Socioeconomic Assessment.

Staff evaluated the incremental cost-effectiveness of further reductions from adhesives and sealants and determined that greater emissions reductions would not be cost-effective at this time. For this analysis, staff considered reducing the VOC content from plastic welding. Unlike a typical adhesive which consist of a sticky substance that bonds two surfaces together, plastic welding uses a solvent to temporarily dissolve/soften plastic so it can adhere to itself or another plastic (ABS, CPVC, PVC, SAN). If a near-zero VOC alternative could be developed for plastic welding, an additional one tpd VOC reduction could be achieved. Plastic welding is used on many types of products including building drains, sewers, pipes, irrigation systems, shower pans, and other building components. A functional change to solvent welding would yield significant VOC reductions but would also require a fundamental change to the materials being bonded. Not only would there be the cost of product development, which would have to go beyond product reformulation to identify an alternative technology, but there is a cost of developing the new building materials, testing protocols, certifications, and training for the end-users. Staff estimates that the incremental cost for the adhesives would be slightly higher than the current estimate for reformulating the plastic welding cement, is approximately \$3/gallon. The cost to redesign the building materials for the plastics that is used for pipe, flooring, roofing etc. would be significant due to the volume of product sold. Annually, 10 billion pounds of vinyl products are sold in the United States. Based on population, over 500 million pounds are sold in the SCAQMD. If only 5% of that vinyl is used in building materials that would need to be redesigned or altered and the incremental cost was \$1/pound, that would represents over 25 million pounds of products and the overall cost/ton reduction would be over \$100,000/ton.

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Further VOC content reductions beyond the current proposal for regulated products is possible but would result in a significant increase in cost. Staff estimates that the cost-effectiveness would more than double for the addition reduction. In the future, such low-VOC technologies may emerge and evolve, thus making further VOC reductions cost-effective.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

PAR 1168 is considered a “project” as defined by the California Environmental Quality Act (CEQA), and the SCAQMD is the designated lead agency. Pursuant to CEQA Guidelines Sections 15252 and 15070 and SCAQMD Rule 110, the SCAQMD has prepared an Environmental Assessment (EA) for PAR 1168. The environmental analysis in the Draft EA concluded that PAR 1168 would not generate any significant adverse environmental impacts and therefore, no alternatives or mitigation measures are required. The Draft EA was released for a 30-day public review and comment period from August 16, 2017 to September 15, 2017. Two comment letters were received from the public relative to the Draft EA and responses to the comments have been prepared. The comment letters and the responses to the comments have been included in Appendix B of the Final EA.~~Responses to comments will be prepared for any comment letters that are received relative to the Draft EA.~~

~~Subsequent to the public review and comment period, release of the Draft EA, will be updated to reflect any modifications were made that are made to the proposed project, and the Draft EA will be converted to a Final EA. The comment letters and the individual responses to the comments will be included in an appendix to the Final EA. The Final EA will be included as an attachment to the Governing Board package. The SCAQMD Governing Board must review the adequacy of the Final EA, including responses to comments, prior to certification of the Final EA and adoption of PAR 1168. Staff has reviewed the modifications to the proposed project and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor do they provide new information of substantial importance relative to the Draft EA. As a result, these revisions do not require recirculation of the EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft EA is now a Final EA and is included as an attachment to the Board package. The Board must review the adequacy of the Final EA, including responses to comments, prior to certification of the Final EA and amending Rule 1168.~~

COMMENTS AND RESPONSES

Public Workshop Comments

Public Workshop Commenter #1: Doug Raymond – National Aerosol Association

Commented that the foam sealant limits should be eliminated, as there is currently no available VOC test method.

Response to Public Workshop Comment 1:

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The SCAQMD lab is currently undergoing test method development for products applicable to foam sealants and will work with industry on this challenge. The test method issue will be further addressed at the time of the technology assessment.

Public Workshop Commenter #2 – Rita Loof, - RadTech International

The commenter expressed the following:

1. Requested the test method for thin film UVEB Curable products, ASTM Test Method 7767 to be included in the Test Methods section of the rule.
2. Suggested the guidance document receive Governing Board approval.
3. Believes the proposed reporting is overly burdensome and costly to the manufacturer.
4. Believes low-VOC products should be exempted from the labeling and reporting requirements.

Response to Public Workshop Comment 2-1

Please see the detailed discussion in the test method section of this report.

Response to Public Workshop Comment 2-2:

~~Staff is willing to~~ bring the VOC Guidance Document to the Governing Board for approval ~~if the working group deems necessary.~~

Response to Public Workshop Comment 2-3

Please see the detailed discussion in the key issues section of this staff report on the reporting requirements.

Response to Public Workshop Comment 2-4

Please see the detailed discussion in the key issues section of this staff report on the need to have all products reported to have a full profile of the emissions inventory. It is critical that this inventory includes near zero VOC, low-VOC, and higher-VOC products. Although the commenter believes that requiring low-VOC product manufacturers to report would be a disincentive for manufacturers from selling within the District, staff believes the opposite would result. When staff has a full profile to evaluate reported emissions and incorporate that data in future rule development, those low-VOC products would be the long standing products that would then have a greater share of the marketplace for complying with SCAQMD rules. Although the commenter expressed their lack of support for Rule 314, this companion rule has proven to be vital and extremely effective in reducing VOC emissions from Architectural Coatings and has led to less stringent rule making.

Public Workshop Comment 3: Amber Coluso – Port of Los Angeles

The commenter expressed the following:

1. Please include labeling requirements for the Safety Datasheets (SDS).

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2. There are limited products available specifically for the marine environment and often they have to use non-marine products for marine use. It is very hard to use a waterborne product in a marine environment. They would prefer to have a category specific for a marine adhesive instead of combining it with the automotive category, as is the case for top and trim adhesives.

Response to Public Workshop Comment 3-1

The SCAQMD does not have the authority over what is included on SDS.

Response to Public Workshop Comment 3-2

For low volume use where a high-VOC product is needed, the 55_-gallon per year exemption is available. The proposed VOC limit for ~~Top~~ and ~~Trim~~ ~~Adhesives~~-~~limit~~, which applies to automotive and marine use, will increase to 540 g/L upon rule adoption. Staff is proposing to lower the limit back to 250 g/L by 2023. The proposed VOC limit reduction will also include a technology assessment. At the time of the assessment, staff will specifically inquire about the adhesives available for marine use and carve out a higher limit or exemption if needed.

Public Workshop Comment 4: Will Lorenz – General Coatings and the Roof Coatings Manufacturers Association

Industry viewed Clear, Paintable, and Immediately Water-Resistant category as unregulated, but now staff is proposing 250 g/L by 2023. The commenter suggested that the limit should be at 380 g/L in 2019, delaying the 250 g/L until 1/1/2023, with a technology assessment.

Response to Public Workshop Comment 4

Staff proposed a 380 g/L limit upon adoption, but will not propose a technology assessment as this product is currently subject to Rule 1168, at a VOC limit of 250 g/L. The proposal will forego compliance with 250 g/L until 2023. A further discussion is included in the response to written comment below in section 2-2.

Written Comments Received after the Public Workshop

Comment Letter #1



August 2, 2017

via e-mail - nsilva@aqmd.gov

Ms. Nicole Silva
Planning, Rule Development, and Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: Proposed Amended Rule 1168¹

Dear Ms. Silva:

The Consumer Specialty Products Association (CSPA)² appreciates the opportunity to review and comment on the South Coast Air Quality Management District (AQMD or the District) proposed amended Rule 1168 (PAR). Numerous CSPA member companies manufacture and/or market consumer products that are used in the District, and are engaging in a review of the draft proposal.

The overwhelming majority of CSPA member companies' products are subject to the provisions of the Air Resources Board's (ARB's) comprehensive statewide Consumer Products Regulations.³ Thus, CSPA has concerns about how PAR 1168 interfaces with the current ARB

¹ The text of Preliminary Draft Rule dated July 21, 2017 is posted on the AQMD website at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1168/PAR1168.pdf>

² The Consumer Specialty Products Association (CSPA) is the premier trade association representing the interests of companies engaged in the manufacture, formulation, distribution and sale of more than \$100 billion annually in the U.S. of familiar consumer products that help household and institutional customers create cleaner and healthier environments. CSPA member companies employ hundreds of thousands of people globally. Products CSPA represents include disinfectants that kill germs in homes, hospitals and restaurants; air fresheners, room deodorizers and candles that eliminate odors; pest management products for home, lawn and garden, and pets; cleaning products and polishes for use throughout the home and institutions; products used to protect and improve the performance and appearance of automobiles; aerosol products and a host of other products used every day. Through its product stewardship program, Product Care[®], and scientific and business-to-business endeavors, CSPA provides its members a platform to effectively address issues regarding the health, safety and sustainability of their products. For more information, please visit www.cspa.org.

³ See Regulation for Reducing Emissions from Consumer Products 17 CCR §§ 94507-94571; and Alternative Control Plan Regulation for Consumer Products and Aerosol Coating Products 17 CCR §§ 94540-55.

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regulations for adhesive and sealant products. In addition, CSPA has specific technical concerns with PAR 1168.

1. The inclusion of “All Other” product subcategories in Paragraph C, “Table 1 – Regulated Product Categories and VOC Limits” lacks the requisite precision for a fairly enforceable regulation. In addition, the use of such a vague and all-encompassing term is too imprecise for the AQMD to accurately calculate emission reductions.

1-1

CSPA has serious concerns about the broad over-reach and inherent compliance issues related to the proposed limits for “All Other” subcategories in PAR 1168 (e.g., “All Other Sealants”). As the ARB noted in the June 16, 2014, letter to Dr. Chang, “Definitions are necessary because it is important to distinguish the universe of products that are subject to the VOC standards from those that are not subject to standards.”⁴ The frequent use of the broad and amorphous term “All Other” in “Table 1 – Regulated Product Categories and VOC Limits” is contrary to the fundamental premise of an environmental regulation like Rule 1168: clearly identifying a particular regulatory standard that applies to a specifically defined product category. Absent such clarity manufacturers, distributors, retailers, and users of the products to cannot reasonably understand and comply with the regulation; and thus, the regulation cannot be enforced fairly by the AQMD.

Moreover, the vaguely defined “All Other” subcategories lacks the requisite precision for the AQMD to accurately calculate emission reductions that will be achieved by the new limits on the volatile organic compound (VOC) content of adhesive and sealant products.

Therefore, CSPA urges the AQMD to delete any and all references to “All Other” product subcategories in Paragraph C, “Table 1 – Regulated Product Categories and VOC Limits.”

2. As currently drafted, PAR 1168 could frustrate companies’ compliance efforts by creating a patchwork of potentially conflicting statewide and District regulations.

1-2

California leads the nation in the effort to reduce the impacts of air pollution. Since 1989, CSPA has worked cooperatively with ARB to develop VOC and reactivity limits that apply to numerous and broad categories of consumer products while maintaining the technical and commercial feasibility of the products. Those efforts have resulted in more than 50% reduction in VOC emissions from consumer products, which has contributed to the improvement in air quality throughout the entire State of California.⁵ In addition, the AQMD’s regulations have improved the health and quality of life for all residents in the South Coast Air Basin.

⁴ Letter from Ellen Peter, Esq., Chief Counsel, ARB, to Dr. Elaine Chang, Deputy Director, AQMD (June 16, 2014) at p. 3

⁵ ARB regulations establish VOC limits for broad categories of consumer product; when fully effective, these regulations will reduce VOC emissions by about 50 percent compared to 1990 levels. See “Staff Report: Initial Statement of Reasons for Proposed Rulemaking Proposed Amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating

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1-2
cont The Health and Safety Code gives the ARB authority to regulate consumer products, and defines a "consumer product" as ". . . a chemically formulated product used by household and institutional consumers. . . ." ⁶ Moreover, in exercising its authority to implement this statutory mandate, the ARB has interpreted the term "consumer products" to include "institutional products" or "industrial and institutional (I&I) products" (i.e., chemically formulated products used by institutional consumers).⁷

1-3 As currently drafted, PAR 1168 would expand the scope of the current District regulation to include **any** non-manufacturing uses of consumer products that are not subject to VOC limits established by the ARB Consumer Products Regulations.⁸ Such regulatory action would circumvent the California Legislature's clearly worded mandate that consumer products should be subject to regulations that are "commercially and technologically feasible and necessary" ⁹ and could create a patchwork of potentially conflicting statewide regulations (measured by percent VOC by weight) and District regulations (VOC content measured by grams per liter).

3. Technical Concerns.

1-4 **Purpose and Applicability – PAR Paragraph (a):** CSPA suggests including clarification similar to that found in Rule 1113 stating "that is intended to be field applied with the District." And so it would read, This rule applies to ~~all commercial and industrial~~ **any person who sells, stores, supplies, offers for sale or manufactures for sale any sales and applications of** adhesives, ~~adhesive bonding primers,~~ adhesive primers, sealants, ~~or sealant primers, or any other primers,~~ unless otherwise specifically exempted by this rule **that is intended to be field applied within the District.**

1-5 **Definitions – PAR Paragraph (b)(7) Aerosol Adhesive:** CSPA suggests language reflecting innovation in the aerosol industry to include aerosol products manufactured and marketed in containers other than cans, including plastic containers. Thus, the sentence would read: AEROSOL ADHESIVE ~~means is~~ any adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a ~~nonrefillable~~ **container** designed for hand-held application . . .

1-6 **Administrative Requirements – PAR Paragraph (f):** CSPA appreciates the discussions at the AQMD Working Group meetings regarding the reporting requirement and requests that the

Products Regulation, the Tables of MIR Values, Test Method 310, and Proposed Repeal of the Hairspray Credit Program" (August 7, 2013) at Executive Summary–2.

⁶ Cal Health & Safety Code § 41712(a)(1).

⁷ 17 CCR § 94508(a)(77).

⁸ See PAR 1168 Paragraphs (a) and (i)(11).

⁹ See Cal Health & Safety Code § 41712(b). The Health and Safety Code authorizes and requires ARB to adopt regulations to achieve the maximum feasible reduction in VOCs emitted by consumer products if the regulations are: (1) necessary to attain state and federal ambient air quality standard; and (2) commercially and technologically feasible and necessary.

CSPA Comments – Proposed Amended Rule 1168
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1-6
cont

frequency and the specific information requested be revised to lessen the administrative burdens on those who must report. CSPA urges the District to survey industry no more frequently than every five years, beginning with the year of rule adoption. During the interim years, population growth factors or economic indicators could be used to estimate product sales and use, as the California Air Resources Board does.

Thank you for your consideration of our concerns. Please contact us by phone (202-872-8110) or e-mail (jyost@cspa.org and kpower@cspa.org) if you have questions about issues presented in these comments. We look forward to working constructively with you during this rulemaking proceeding.

Respectfully,



Joseph T. Yost
Vice President
Strategic Alliances & Industry Relations



Kristin Power
Senior Vice President
State Government Relations
& Public Policy

cc: Ravi Ramalingam, P.E., Chief, Consumer Products and Air Quality Assessment Branch,
Air Quality Planning and Science Division, Air Resources Board
CSPA Air Quality Committee
American Coatings Association
Adhesives and Sealants Council

Response 1-1

Please see the discussion in the key comment section for a further discussion.

The current rule language has default VOC limits and categories similar to the “all other” categories in the current proposal of PAR 1168. In subparagraph (c)(1) of the 2005 version of Rule 1168, a default limit of 250 g/L is set for “adhesives, adhesive bonding primers, adhesive primers, or any other primer” that do not have a VOC limit listed within the rule. The current version of the rule has several tables for the various general categories of regulated product. Staff is proposing to remove the default clause previously listed as (c)(1), and incorporate that limit throughout a single table (Table 1 in subparagraph (c)(1)), which is similar to other SCAQMD VOC rules.

Staff proposed certain “all other” categories to reflect those current limits listed within Rule 1168. The “all other adhesives” category is set at 250 g/L to maintain the current default limit listed in (c)(1) of the current rule. The “All Other Roof Adhesives” category replaced the “nonmembrane roof adhesive” category, which has a current limit of 250 g/L. The “All Other Roof Sealant” category replaced the “nonmembrane roof sealant” category, thus having a current limit of 300 g/L as in the current version of the rule. The sealant category of “All Other Architectural Applications” is set at 250 g/L to maintain the current rule limit of 250 g/L for “~~a~~Architectural sSealants.” The “~~a~~All ~~o~~Other sSealant” category is proposed to reflect the current rule limit of 420 g/L for “~~All~~ Other Sealants.”

Response 1-2

When staff began the rule development process in 2013, staff acknowledged industry’s concern regarding the statewide and regional regulations ~~of~~ for consumer products. Staff worked with CARB regarding clarification on the applicable jurisdiction of the CARB CPR and Rule 1168 and received clarification through the 2014 CARB correspondence letter referenced in this staff report. In that correspondence letter, CARB stated that if CARB regulations do not specify a VOC standard that applies to a product, then CARB does not regulate the VOC content of that product and local air ~~D~~istricts have the authority to adopt their own VOC standards of that product, regardless of whether or not it is a consumer product. This interpretation is in harmony with SCAQMD’s interpretation of the regulatory authority. Pipe cements for example, are not regulated by the CARB CPR, although they are consumer products, and have long been regulated by SCAQMD.

Staff is not proposing to regulate consumer products regulated by the CARB CPR. Staff is clarifying that all adhesive, adhesive primer, sealant, and sealant primer products, are subject to Rule 1168 if the product is not regulated by the CARB CPR, regardless of size, or if used at a stationary source.

Response 1-3

Staff is not proposing to expand the scope of Rule 1168, but clarifying that all adhesive, adhesive primer, sealant, and sealant primer products, not regulated by the CARB CPR, regardless of size, are subject to Rule 1168. This is consistent with recent rule making activities, such as the adoption of Rule 1143 – Consumer Paint Thinners & Multi-Purpose Solvents in 2009 where staff adopted

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a rule that is applicable to consumer products because those products were not regulated by the CARB CPR. Although California Health and Safety Code, ~~s~~Section § 41712 authorizes CARB to regulate certain consumer products, local air districts retain the authority to adopt VOC standards for any consumer product category for which CARB has not already adopted a standard. See Cal. Health & Safety Code, Section § 41712(f). The SCAQMD has the authority to regulate any adhesives or sealants not regulated by the CARB CPR. Response 1-4

In response to including clarification similar to language found in Rule 1113 – Architectural Coatings, PAR 1168 is intended to reduce volatile organic compounds (VOC) from various sources beyond just “field applied” applications. The SCAQMD has coating rules that distinguish field application (Rule 1113) and shop applications (e.g. Rule 1107 – Coating of Metal Parts and Products and Rule 1136 – Wood Products Coatings). In contrast, Rule 1168 applies to both field and shop application of ~~adhesive and sealant~~regulated products, such as the manufacture of goods or commodities and repair work (shoe repair, ~~or~~ furniture repair, etc.).

Response 1-5

Staff appreciates the commenter’s suggestion, but staff will retain the language defining “Aerosol Adhesive” as it is the same definition as the CARB CPR. The proposed rule is retaining the exemption for aerosol adhesives; therefore, it is important that the definition mirror the CARB CPR definition.

Response 1-6

Please see further discussion in the ~~k~~Key issues-Concerns section of this staff report.

Staff revised the initial proposal of annual reporting to reports being submitted every three years until 2025, then every five years thereafter, until the proposed sunset date of 2040. The proposed frequency has taken into consideration the burden reporting may cause on industry, by reducing the number of proposed reports from 21 reports (if submitting annually) from 2019 to 2040, to six reports being submitted during that same timeframe. Annual reporting is the best option to ensure an accurate inventory, but staff is trying to address the concerns of industry.

Comment Letter #2



August 17, 2017

Nicole Silva
Planning, Rule Development & Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

RE: Proposed Amended Rule 1168; RCMA Public Comments

Dear Ms. Silva:

The Roof Coatings Manufacturers Association (RCMA)¹ and its member companies appreciate the opportunity to comment the South Coast Air Quality Management District’s (SCAQMD) Proposed Amended Rule 1168. RCMA appreciated that District staff has updated its Rule 1168 regulatory language to reflect stakeholder comments made in written and oral form during the Working Group process. We have the following comments for the public workshop:

2-1

1. Reporting and Labels of Consumer Products in an Industrial Setting

RCMA feels strongly that the California Air Resources Board (CARB) Consumer Products has governing authority over consumer products used in the State including ones proposed for industrial settings. We are concerned that future jurisdiction issues will prevent manufacturers from properly harmonizing units and restrict utilization of methods to calculate VOC limits, in order to demonstrate compliance with this rule.

In discussions with SCAQMD, RCMA appreciates that the District has proposed to allow “g/L” labeling on supplemental product documentation so that manufacturers are still able to continue to label for CARB and be compliant with Rule 1168. However, since most consumer sealants and adhesives utilize “% VOC by weight” as their VOC unit, the proposed draft still requires manufacturers to calculate VOC content for both sets of regulations to demonstrate compliance. This can lead to confusion in the marketplace, as manufacturers will constantly be faced with determining which regulations apply to their product, and which limit, label, and VOC calculation method should be employed.

Thus, RCMA requests that SCAQMD allow manufacturers to employ their existing method (“% VOC by weight”) when calculating VOC limits to determine compliance with Rule 1168. This would allow SCAQMD to move forward with its interpretation of its authority, while also minimizing negative impacts on manufacturers.

¹ RCMA has served as the national trade association representing a large majority of the manufacturers of asphaltic and solar reflective roof coatings and the suppliers to the roof coatings industry. Roof coatings protect commercial and residential roofs against water, chemicals, and physical damage. This can extend the life of the roof system, reducing building-owner costs and tear-off waste. Roof coatings have numerous benefits to energy use and the environment. Reflective roof coatings lead to lower roof temperatures, which in turn reduce the Urban Heat Island Effect, air conditioning costs, and peak energy use. The vast majority of RCMA member companies are family-or employee-owned, privately held small businesses.

2-2

2. Creation of “Clear, Paintable, Immediately Water-Resistant” Category in Table 1

The implementation of this category has RCMA very concerned. Previously, there was no SCAQMD limit or category established for these products under the current Rule 1168. In discussions with staff, there was an assumption that prior to this category’s creation, these products would currently meet “All Other Architectural Applications” category at 250 g/L. As an association that represents manufacturers, we have been unable to find products in the Basin that are clear, paintable, immediately water-resistant, effective, and meet the 250 g/L limit. Since there are no products that meet the proposed limit, RCMA believes that the 250 g/L limit is unfeasible and technology forcing. Furthermore, this reinforces the ambiguity of the “all-other” category where adhesive and sealants are subject to restricted limits without determining whether technological feasibility applies.

In the 2nd Working Group presentation, there was a proposal for SCAQMD to “raise” the limit to 380 g/L, based on the sales weighted average of products in a survey currently sold in the South Coast basin. We find this to be a guess at best and without a technology assessment, we have no other reason to know if products that perform within this new category are technologically feasible to get to a lower VOC.

RCMA proposes two things: (1) the 380 g/L limit for “Clear, Paintable, Immediately Water-Resistant” be moved to effective on “1/1/2019” and the proposed 250 g/L limit be moved to “1/1/2023” with the added note that it is dependent on the results of a technology assessment; (2) complete a technology assessment for “Clear, Paintable, Immediately Water-Resistant” products to ensure that they can meet the 250 g/L limit and still be effective before the limit goes into effect.

It is unrealistic and anti-competitive to immediately impose a limit on these products without giving industry time to reformulate and clarify the confusion for the supply chain and consumers on what the limit would be on these products.

2-3

3. Test Methodology

It appears that paragraph (e)(6) has been imported from Rule 1113: “when more than one test method is specified for testing, a violation of *any* of the test methods used would constitute a violation of this rule.” However, Rule 1113 applies to architectural coatings products (i.e. products that are wide ranging but fairly homogenous in their application techniques and packaging).

In contrast, Rule 1168 products are far more specific by technologies, applications, packaging, and uses. Therefore, industry needs to know what test methods the various products are being measured with if SCAQMD allows manufacturers to use equivalent test methods. This current language for test methodology is not properly focused on defining VOC compliance. Instead, we believe this “any” wording as making this 1168 revision contentious and potentially creating an unfounded enforcement concern

RCMA would like to propose the District create a stakeholder group to discuss which test methods would be appropriate for each product category, and suggests revising or removing section (e)(6).

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The Association appreciates the positive relationships we have built with the South Coast Air Quality Management District and looks forward to continuing collaboration to work toward improved air quality and achievable regulatory activities.

Sincerely,

A handwritten signature in cursive script that reads "Chelsea Ritchie". The signature is written in black ink and is positioned above the typed name and address.

Chelsea Ritchie
Director of Legislative and Regulatory Affairs
Roof Coatings Manufacturers Association (RCMA)
750 National Press Building
529 Fourteenth Street, NW
Washington, D.C. 20045

Response 2-1

Manufacturers and private labelers that manufacture regulated product applicable to Rule 1168 currently have to comply with the VOC content set forth by the rule in the units of grams per liter (g/L). Other agencies may elect to allow manufacturers to list the VOC content of their product by weight percent, but SCAQMD VOC rules require that the VOC content be according to g/L to ensure proper and consistent enforcement. Since there may be products that are applicable and in compliance with the CARB CPR, but incorporated into or used exclusively in the manufacture of the goods or commodities, SCAQMD staff proposed the alternative to container labeling by listing the VOC content in supplemental documentation from the manufacturer. Staff has also explained to industry that there are products considered consumer products that are exempted from the CARB CPR, and thus subject to Rule 1168. Staff will retain the g/L in the table of standards, and in the requirements for labeling and reporting as explained throughout this staff report.

Response 2-2

Staff disagrees with industry's belief that those products that are classified as Clear, Paintable, and Immediately Water Resistant Sealant are unregulated by Rule 1168. To address this misunderstanding of the regulatory authority over this category, staff received clarification from CARB through the CARB correspondence letter. Staff categorizes these products as Architectural Sealants, with the current limit of 250 g/L. Although industry felt that these products were unregulated, SCAQMD has always viewed these products as subject to Rule 1168, regardless of size.

Staff recognizes that products categorized as Clear, Paintable, and Immediately Water Resistant Sealants do not meet the limit of 250 g/L, but has given industry ample notice that these products are applicable to Rule 1168 and would be clarified by explicitly defining a category in PAR 1168. Furthermore, staff delayed enforcement against this category of products in an effort to work with industry to reach compliance with the requirements of this rule.

This rule amendment process began in 2013, at which point the affected industry was aware of the SCAQMD's interpretation of the regulation and the intention to reduce the VOC limit. Staff had proposed to reduce the VOC limit to 50 g/L by January 1, 2018 for these products to align the VOC limit with the future VOC limit for architectural sealants. The current proposal is to reduce the VOC limit to 250 g/L by January 1, 2023 so they comply with the current VOC limit. While industry had four years to conduct research and development, the current proposal allows an additional six years before the lower VOC limit becomes effective with a less drastic VOC limit reduction.

Further, many low-VOC sealants are clear and immediately waterproof, or paintable and immediately waterproof, so end-users have products available to meet the need of having an immediately waterproof sealant. The SCAQMD is in an extreme non-attainment area for ozone, so all VOC reductions must be considered.

Response 2-3

Staff recognizes the concern created with including the previously proposed language for Multiple Test Methods in (e)(6) and removed that language. Staff is proposing to create a guidance

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document to explain the test method determination based on type of product, chemistry, and VOC content. Staff agrees with the comment that a stakeholder group should be formed to discuss the creation of the guidance document and will seek Governing Board approval ~~if deemed necessary~~.

Comment Letter #3



August 30, 2017

Ms. Nicole Silva
Air Quality Specialist
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182

Dear Ms. Silva:

The Adhesive and Sealant Council (ASC) is a North American trade association representing 121 manufacturers of adhesives, sealants and suppliers of raw materials to the industry. As director of government relations for ASC, I appreciate the opportunity to offer comments on the South Coast Air Quality Management District's (SCAQMD) proposed revision to Rule 1168.

Section (a): Purpose and Applicability

Since 2014 ASC has been concerned with the AQMD's decision to expand the scope of Rule 1168 to include non-manufacturing uses of consumer products for which there is no volatile organic compound limit (VOC) mandated by the California Air Resources Board's (CARB) *Regulation for Reducing Emissions from Consumer Products*. This decision will result in consumer adhesive and sealant products presently not regulated by CARB being subject to the South Coast's "all other" category of 250 g/l without any technological feasibility considerations.

3-1

Subsequently this will create a sense of confusion among manufacturers, distributors, retailers and the end user community as to how these two regulations interrelate and what parties may be held responsible for future violations. As one example, smaller regional manufacturers marketing products into California, designed only for the consumer market, may be unaware they are committing a violation within the confines of the South Coast.

Consumer adhesives and sealants are marketed in a wide range of retail venues throughout the district and manufacturers of these products have no control over who purchases these products and how they are used. At some future point SCAQMD enforcement staff may find such products being used inappropriately in a manufacturing facility yet the current rule proposal provides no absolution for an unknowing product manufacturer who could then be subject to financial penalties.

ASC urges that South Coast reconsider adding consumer products not presently regulated by CARB to this rule.

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Section (c): Requirements

It is ASC's understanding from discussions with its members that for the most part the latest proposed VOC limits will be manageable but there are some applications that still raise serious concerns.

One application category of concern is the Wood Flooring Adhesive limit being reduced from the current 100 g/l to 20 g/l in 2021. While water-based products will most likely meet that lower limit, it is unclear whether these types of products will address all the types of situations by which wood flooring must be bonded. There are certain challenging bonding situations where the adhesives require either a polyurethane or another solvent-based alternative is required.

Some examples would include:

3-2

- Solid wood planking that is now available in widths of 24";
- Engineered wood flooring -- most subflooring in new construction is not absorbent enough for water-based adhesives thus when this type flooring wider than 3" it is likely to cup with anything less than higher solvent alternative;
- Bamboo flooring.

In addition, most water-based adhesives are formulated outside of the South Coast and shipped into California in unheated transportation. Water-based materials susceptible to freeze-thaw conditions could be compromised during shipping in winter months and more likely to fail particularly when attempting to bond more challenging applications.

One final comment with regard to the Wood Flooring Adhesives issue, it should be pointed out that SCAQMD's *Draft Staff Report for Rule 1168*, issued in July 2017, lists eleven wood flooring adhesive products that would meet the new 20 g/l limit (page 22). Discussions with our members seem to indicate that at least two and possibly more of these products are not generally classified as wood flooring adhesives. ASC asks that SCAQMD staff review this list again and determine how many of these products actually meet the Rule 1168 definition of Wood Flooring Adhesive.

3-3

Another area of concern is the spray foam sealant category. First, it is important to note that while the rule proposal seems to address only polyurethane foam sealant and ignores Latex-based foam sealants. These Latex-based foam sealants are products that greatly differ from the polyurethane foam sealant products, in terms of chemistry, application and market share.

Unlike polyurethane products, these products would need a freeze-thaw stable chemical such as ethylene glycol, propylene glycol or an alcohol as their ingredient in order to protect the product from freeze cycles. These freeze-thaw stable chemicals are VOC's, thus contributing to the overall VOC content of the product. Additionally, the Latex-based foam sealant products are used in smaller indoor applications by those consumers who would prefer the use of an MDI free

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foam sealant. These products are almost never used by the facilities in the district in a manner that would constitute a non-consumer use.

Making up less than one percent of the foam sealant market, regulating the Latex-based foam sealant category would not offer much VOC emission reductions in the district. The proposed 50 g/L VOC limit for the Foam Sealant category assumes a successful reformulation of the category where a non-VOC propellant is used to dispense the foam. Even should a hydrocarbon propellant with a non-VOC delivery system be successfully commercialized, Latex-based foam products would still have enough VOC's in their formulation as freeze-thaw stable chemicals that would render the product noncompliant under this proposed rule.

Considering that Latex-based foam sealants are the only MDI free foam sealant options available to those consumers who do not want to risk exposure to MDI for health reasons, regulating these products would place them out of these customers' ability to purchase.

We strongly recommend the agency to treat the Latex-based foam sealants as a separate product category by explicitly excluding it from the Foam Sealant definition and subject the category to the default VOC limit of 250 g/L.

With regard to spray polyurethane foam limit that would assign 200 g/l limit upon adoption of the rule and a reduction 50 g/l in 2023, ASC believes this reduction to the lower limit is not practical and seems arbitrary given the present delivery agents available.

One proven alternative, HFC-134a, has been eliminated as a result of the U.S Environmental Protection Agency's (EPA) Significant New Alternatives Policy regulations on foam blowing agents. Current available hydrofluoroolefins (HFOs) that have been suggested do not meet product performance requirements because they lack appropriate vapor pressure. Any blowing agent used in insulating foam sealant aerosol cans must not only help the product create the insulating foam by producing closed cells in the foam, it must also behave as a propellant that will remove the entire product from the can to avoid product waste. The current HFOs are not drop-in replacements that will allow these products to meet these requirements. Foam sealant product change developments and building code testing require a minimum of 3 to 5 years for conversion.

Currently the proposed rule would initiate a technology assessment to be conducted by January 1, 2022 with a report on the results of the technology assessment be reported to the District's Stationary Source Committee prior to the January 1, 2023 proposed implementation date. ASC suggests removing the 50 g/l VOC limit from the proposal until a technology assessment actually finds that a lower VOC limit is warranted. At that time a lowered limit can be implemented in a future rule with an acceptable timetable.

Finally, the proposed 'foam sealant' category requires further refinement. As written in the draft, the two distinct product types are mixed and would create confusion to the regulated community. ASC proposes the following changes to correctly address the aerosol foam sealant can products as outlined in the Preliminary Draft Staff Report:

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~~(35) FOAM SEALANT is an aerosolized one component pre-polymerized foam used to fill and form a durable, airtight, water-resistant seal to common building substrates such as wood, brick, concrete, foam board and plastics. Foam sealant includes insulating foam.~~

~~(43) INSULATING FOAM is polymer-containing material injected into wall cavities to provide thermal resistance and sound reduction.~~

3-4

ASC recognizes the District's efforts to update the VOC limit for the Top and Trim Adhesive category but we believe these products still need a transition period to reformulate these products to meet the proposed VOC limit. The introduction of new raw materials will create logistical challenges and would put added strains on our members' facilities, especially when inventories of the old raw materials and other related items such as product labels and containers have not yet been exhausted. Product labels are preprinted and would typically take about 3 months to develop and get ready for production. ASC realizes that these challenges do not arise from the proposed VOC limit going into effect upon adoption, but from the potentially very short transition period relating to the exclusion of the Top and Trim Adhesive category from the low volume exemption under (i)(7). While we strongly support the exclusion of the Top and Trim category from this exemption, we believe the industry would need more time to transition into the new VOC limit. The proposed January 1, 2018 date for this exclusion would become unworkable if this proposed rule is adopted in the later parts of Calendar Year 2017. We recommend modifying the text in (i)(7) to read as follows:

.... ~~Effective January 1, 2018, a~~ facility may not use this paragraph to exclude non-compliant rubber vulcanization adhesives and top and trim adhesives one year after the date this rule is adopted.

3-5

One other area of concern in the Requirements Section is the District's decision to limit the sell-through and use through-period to three years from the point the rule takes effect. While the Council recognizes that most of the products regulated by Rule 1168 are rapidly sold and utilized, the latest proposal does not assign a responsibility for disposal of "orphaned" products remaining on the shelves beyond the three-year limit. ASC believes an unlimited sell-through period is appropriate in this situation.

Section (f) Administrative Requirements

3-6

ASC recognizes that South Coast has made concessions with regard to reporting requirements timetable proposal but the District also should recognize that even the most recent proposal will represent an extremely burdensome information request for our members.

For example, it appears that the District will not allow product grouping and require that individual products. In the past larger companies have grouped and reported very similar products with different technologies that still are very close in VOC content. By now requiring that these products be reported individually, companies will be confronted with further administrative burdens that will provide no real additional understanding to the District staff. While companies may report volumes of products *shipped* into the District, there is no real ability to know what volume of these products are actually *sold* in the District.

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3-6
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This expensive and labor intensive exercise whether it be every three years or every five years, will still remain a remarkable cost burden to adhesive and sealant manufacturers that may provide very limited additional information to the District staff.

3-7

Another concern that ASC members have is new requirement that end users report information related to the existing 55-gallon exemption. Several ASC members have noted to us that they sell products covered by these requirements through distributors and, therefore do not have a direct relationship with these end users. This will require that these distributorships be responsible for explaining to those impacted by the rule the reporting requirements, and our members are unsure whether some distributorships will have the willingness or expertise to explain the new requirements to those using our members' products.

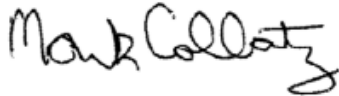
Section (i): Exemptions

3-8

With regard to exemptions ASC would like to recognize and thank the District for clarifying that Rule 1168 does not apply to adhesive tapes as well as maintaining the aerosol adhesive that allows the use of specialized products need by various industries within the South Coast.

If you have any questions, please contact me at 301/986-9700 ext. 112

Respectfully submitted,



Mark Collatz
Director of Government Relations

Response 3-1

See the ~~Key comment~~ Concerns section of this staff report and responses to comments 1-1, 1-2, and 1-3.

Staff also would like to acknowledge the commenter's request to "reconsider adding consumer products not presently regulated by CARB to this rule." Although language has been added to provide clarity to the existing exemption regarding the CARB CPR, SCAQMD always considered products excluded from the CARB CPR to be regulated by Rule 1168. The position SCAQMD has regarding its regulatory authority over regulated products that are excluded from the CARB CPR was further supported by the CARB correspondence letters.

Response 3-2

Staff based the proposal on the survey data, which showed that about half of the currently available products meet the future proposed VOC limit. The survey did not include product type (waterborne or solvent based), so no assumptions on formulation from the data can be made.

With respect to freeze/thaw stability agents, staff has reviewed numerous technical data sheets for products that will meet the proposed limits and has found that a significant percentage of them are freeze/thaw stable. While adding co-solvents is one method to enhance freeze/thaw stability, there are other, non-VOC methods as well. Freeze thaw is not a significant issue in the SCAQMD, but shipping of products can be an issue. On a recent visit to a large distribution center, staff noted many containers of different regulated products that stated they are not freeze thaw stable. Therefore, the manufacturers and distributors have mechanism to prevent freezing during shipping and storage.

The list of products in the staff report is just a subset of products found through internet searches or based on the survey responses and is not intended to be a comprehensive list of future compliant products.

Based on this comment and the high sales volume of product that must be reformulated, staff will delay the effective date until January 1, 2023.

Response 3-3

Foam sealants include both latex and polyurethane foams. Most SCAQMD product categories are not specific to a particular chemistry but to the *use* of the product. Most discussions regarding foam sealants focus on polyurethane chemistries because the majority of products are polyurethane. Concerning the methylene diphenyl diisocyanate (MDI) in the foam, the one component urethanes contain pre-polymerize polyurethane so there is no exposure to free MDI in those products.

Concerning HFC-134a, staff wants to point out the Significant New Alternative Policy or SNAP regulation was recently overturned. Staff is not encouraging the use of compounds with a high Global Warming Potential but wanted to make this clarification.

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Staff removed the 200 g/L requirement to be effective upon adoption and instead proposed a 250 g/L current limit for Foam Sealants with a 50 g/L limit effective in 2023 and 50 g/L limit for Insulating Foam. Staff proposed a ~~5~~five year implementation timeline to allow time for reformulation. The initial proposed amendment in 2014 included a 20 g/L VOC limit with an effective date of January 1, 2018. The current proposal for the Foam Sealant category is a 50 g/L VOC limit effective January 1, 2023 and includes a technology assessment for staff to evaluate the progress of reformulation. Staff developed this limit and timeframe with stakeholder feedback on what is feasible. Staff amended the proposal to include an early technology assessment in 2020 to gauge progress on reformulation efforts.

Staff included a separate definition for insulating foam, and changed the definition of foam sealant accordingly. Based on a comment letter submitted to the Stationary Source Committee on September 13, 2017 from the American Chemistry Council and subsequent discussions, staff revised the proposal to rename “insulating foam” “foam insulation” with a 250 g/L VOC limit.

Response 3-4

Staff agrees and is proposing an effective date of January 1, 2019.

Response 3-5

Staff would like to clarify that ~~the three-year proposed~~ sell-through and use-through provisions begin when the reduced VOC limit for a particular category becomes effective. An unlimited sell-through provision is inconsistent with other consumer product regulations and with the shelf life of these products. Products do not have an unlimited shelf life; therefore, unlimited sell-through is not warranted.

Response 3-6

See comment 1-6.

Staff ~~has proposed~~ similar reporting requirements to ~~that which is included in~~ Rule 314 – Fees for Architectural Coatings, which exclude grouping. Although Rule 314 originally allowed grouping, staff found that grouping led to inaccurate reporting (during audits manufacturers could not explain which products were grouped) and can be an issue when verifying compliance (if a manufacturer groups products, inspection staff has no way to verify if any specific product was reported).

Response 3-7

Rule 1168 has always had a prohibition of sale for regulated products. This prohibition of sale extends to the manufacturer and the supplier, whether that be the direct sale from the manufacturer to the distributor, or the distributor to the end-user. If a product was marketed for sale for noncompliant use, then the point of sale could be responsible for violation of the rule.

The 55-gallon per year exemption applies to the end-user. SCAQMD enforcement staff will ensure that the end-users are complying with this regulation. If the end-user ~~were~~ was violating the exemption by using more than 55-gallons per year, the violation would be on the end-user

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unless it can be proven that the manufacturer or distributor knowingly provided more than 55-gallons per year of a non-compliant product to a facility.

Response 3-8

Staff appreciates the commenter's support of the proposed exemption for adhesive tape.

Comment Letter #4



August 30, 2017

SENT VIA E-MAIL

Nicole Silva
Air Quality Specialist
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: SCAQMD Proposed Amended Rule 1168

Dear Ms. Silva:

Members of the Southern California Air Quality Alliance have been actively participating in the rule development process for proposed amended Rule 1168. I have also attended many of the working group meetings, either in person or via teleconference. We appreciate the willingness of SCAQMD staff to consider and address our concerns.

4-1

After reviewing the latest version of the proposed rule amendments, we have one concern remaining: the "sell through" provision contained in subparagraph (c)(3) of the proposed amendments. Our concern is not so much with the "sell through" provision *per se*, but with its applicability to "use" of the product as well. As the rule language currently reads, it is possible for a person to legally purchase a product at the end of the "sell through" period and not be able to legally use it the next day. It is likely that most of the products subject to the rule will have date codes showing when they were manufactured which are not readily decipherable by the purchaser and we believe it is unfair to the purchaser to impose liability for use of product that was only recently purchased but beyond the three year "sell through" period.

We therefore request that an additional "use through" period be provided beyond the "sell through" period. We would suggest an additional 1-2 years.

Thank you for your consideration of this request.

Very truly yours

A handwritten signature in black ink, appearing to read "Curtis L. Coleman".

Curtis L. Coleman, Esq.
Executive Director
Southern California Air Quality Alliance

6601 Center Drive West
Suite 500
Los Angeles, CA 90045
Attn: Curtis L. Coleman
(310) 348-8186 Ph
(310) 670-1229 Fax
colemanlaw@earthlink.net

Response 4-1

Please see response to comment 3-5.

The three-year sell-through period allows the manufacturer, distributor, and end-user to decrease the inventory of remaining stock within the “shelf-life” of the products. The majority of the products manufactured before the VOC limit change is sold within in the first year of the sell-through period. The remaining two years provides a buffer to sell/use any remaining products so the manufacturer does not have to go to each retailer to collect old unsold containers. Staff feels the three-year time period is ample for both sell-through and use-through.

Comment Letter #5



ERA | EPDM ROOFING ASSOCIATION

July 17, 2017

Nicole Silva
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear Ms. Silva:

On behalf of the Single Ply Roofing Industry (SPRI) and the EPDM Roofing Association (ERA), we are providing joint comments on Proposed Amended Rule (PAR) 1168 – Adhesive and Sealant Applications (06/09/17 draft). The SPRI and the ERA are trade associations representing the manufacturers of commercial roofing products; member lists may be found on our websites. The Associations appreciate this opportunity to comment on PAR 1168 with an eye toward allowing the South Coast Air Quality Management District (District) to substantially achieve its emissions reductions goals while maintaining an economically vibrant local roofing industry.

The SPRI and ERA have been active in all aspects of the rulemaking on PAR 1168, including attending working group meetings, workshops and providing comments for the District staff's consideration in its forthcoming environmental assessment. The ERA and SPRI very much appreciate the generosity of the SCAQMD staff to take phone calls from and have meetings with our staff and members to answer questions and clarify issues. The Associations are committed to improving air quality as evidenced by our work with the Northeast and Mid-Atlantic states as they adopted their new VOC regulations over the past ten years.

As we will explain in more detail below, the SPRI and ERA do not support the currently proposed limits of 200 g/L VOC on single-ply adhesives, 250 g/L on single-ply sealants and is also concerned about the proposed 200 g/L limit in the other roofing adhesive category. These limits are not realistic for all products contained in the product categories because products used in many roofing applications are developed for use in very specific situations, with specific products and installation methods, and for specific purposes. The roofing industry has a high percentage of adhered roofs. EPDM and PVC systems are generally put down as adhered; with PVC is in the 50% range and EPDM in the 65% range. TPO has less adhered systems but has more total square footage of adhered than EPDM and PVC combined.

5-1

If the District adopts these proposed limits, the life expectancy of many roofs will be shortened, roofing costs may increase significantly, employment in the roofing industry may be limited (particularly in cooler months) and in some cases the integrity of roofs may be compromised. The resulting socio-economic impacts on the local roofing industry could be severe and would be unjustified. The ERA and SPRI propose alternative limits of 250 g/L and 450 g/L on some applications in some product categories in an effort to help the District achieve its goals without these adverse impacts. In addition, the ERA and SPRI are offering to collaborate with the District on the development of subcategories of the product categories in order to distinguish among the difference in adhesives and sealants.

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Below we elaborate on these and other specific issues raised by PAR 1168, I'd like to provide an overview of single-ply roofing systems and some of the general challenges associated with PAR 1168.

Single-Ply Roofing Systems: Adhered & Mechanically Attached Systems

Adhered single ply roofing systems are also very common in the commercial roofing industry. Adhered systems have also been offered by many manufacturers for decades. An adhered single ply roofing system utilizes an adhesive to bond the roofing membrane to the roof deck or a substrate such as rigid insulation board or other cover board. These include wood fiber board, gypsum board, polyisocyanurate board, plywood, OSB or other cover boards to name a few. The insulation and/or cover board can be mechanically attached to the structural deck (dependent on deck type) or adhered to the deck using an adhesive. If the cover board is mechanically attached, it is typically fastened in a specific pattern which distributes the load equally across a typical 4ft by 8ft board. Fastening patterns and fastener frequency is dictated by many design factors which include the design wind speed, building height and other factors which are very important and detailed in the building code. Once the cover board or insulation is fastened or adhered to the roof deck, a single ply membrane can be adhered to the cover board/insulation using adhesive. The adhesive can be from many different classes of adhesive depending on the local site conditions. Adhesives are offered in a variety of compositions but the most widely used are solvent based contact adhesives.

Mechanically attached as the name implies, is designed so that the membrane is attached to the roof deck by means of a mechanical fastening. The fastening is utilized to secure the membrane through the cover board or insulation to the structural roof deck of a building. The cover board or insulation is also mechanically attached to the roof deck using separate fasteners and plates. The resulting system attachment concentrates the wind loads on the membrane at these fastening rows. The deck type, fastener, plate and/or bar and membrane dictate the maximum wind load performance of a mechanically attached system. Even with mechanically attached roof assemblies, some adhesives, primers or cleaners are required. For example, most parapet wall applications still require the use of adhesives for membrane attachment.

There are some significant performance differences between an adhered system and a mechanically fastened system. Some of the key differences are as follows:

- An adhered single ply roofing system offers the highest wind uplift ratings in the industry. Depending on the complete roofing assembly, wind uplift ratings in excess of 225 psf are common. This is very important in the design of roofing assemblies in high wind speed areas. For example, these areas would include buildings located in hurricane prone areas, high rise buildings (in excess of 50ft.), buildings located adjacent to mountain ranges and areas adjacent to large bodies of water, to name a few. Mechanically attached roofing systems have to be fastened in very narrow fastener rows with high fastener densities to achieve a wind uplift rating in the same range. The maximum adhered uplift available is in excess of 900psf.
- An adhered single ply roofing system provides improved wind uplift load distribution across the roof. When an adhered system is installed, the fastened or adhered cover board or insulation distributes the wind uplift load symmetrically across the entire roof. A mechanically attached roofing system "point" loads the roof at the fastening rows. Point loading typically limits the roofing system design depending on the actual deck type and specific deck attachment. (note –

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Factory Mutual Insurance Company recently limited the fastener row spacing of mechanically attached systems over metal deck due to "point" loading).

- Puncture resistance of an adhered roofing system is typically significantly greater than a mechanically attached roofing system. When the membrane is adhered to a cover board, there is an additive effect to resisting puncture from elements such as hail. Since a mechanically attached membrane is loose between the fastening rows, this reduces the puncture resistance of the membrane in most cases.
- Since an adhered system is adhered or fastened to the roof deck at a uniform rate, the system moves with the building as expansion and contraction occur during the course of the day. Temperature swings of 30°F or more can create a significant amount of movement in a building. Mechanically attached systems are subject to more localized movement since the attachment method concentrates loads in rows.

As illustrated in the attached schematics, while there are hundreds of combinations that make up a roofing system and a roofing assembly, it can be grossly simplified into the four types shown. The urethane adhesive used to secure the insulation in many assemblies will skew your "Single Ply Roofing Membrane Adhesives" sales volume data because urethane adhesives are primarily used for insulation or cover board attachment. Using less insulation is simply not a good option for the thermal performance of the roofing assembly and energy performance of the building, even in a temperate climate like Southern California. Urethane adhesives can be used for Single Ply Membrane, but may be limited to attaching fleece-backed membranes. Fleece-backed membrane is a highly specialized roof system that is typically higher in cost. Transitioning to fleece-backed systems is not a feasible option for the industry, neither for the roofing contractor nor the building owner.

General Challenges with PAR 1168

The following basic concepts about the roofing industry should help you understand our specific comments on PAR 1168.

- Not all adhesives are alike, having been designed for ultimate bond with specific membranes; and not all of them can be used with every roofing assembly and/or for the same purposes. 20% of products would meet the VOC criteria, but the membrane type would be limited to fleece-backed membrane for urethane systems which presents a significant product restriction to the consumer.
- Further complicating matters, 30% of the sealants that DO meet the VOC criteria ALSO require a primer.
- 80% of the products currently in the marketplace would be eliminated. Some of these eliminated products are used in vertical applications. ALL roofs have parapets of some sort or other vertical applications. In these instances, products with currently permitted VOC levels are needed to be able to handle this level of detail.
- The roof system is an integral part to the overall building envelop, protecting the buildings occupants and contents from the elements. Roofing adhesives and sealants were designed to adhere and maintain a watertight seal over a wide range of weather extremes for 20-30 years. These adhesives and sealants are used to install large areas of roofs in the South Coast district that impact numerous buildings. The estimated emissions reduction of PAR 1168 for Single Ply

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and Non-Membrane Roofing Adhesives and Sealants is ~0.2TPD, which is a fraction of the emissions reduction achieved for Wood Flooring Adhesives, Foam Sealants, Architectural Sealants, and PVC Welding (~1TPD reduction).

- Polymers used in adhesive formulations vary due to membrane type, and solvents used in dispersing polymers are specific. For example, solvents used for neoprene polymer (used in EPDM adhesives) are xylene and toluene. Other solvents like hexane and heptane are used in the formulation as drying agents.
- There are functional limitations with exempt solvents, such as low flash points, higher dry-times, potential increase in blistering, high costs, limited availability and excessive pungent odor.
- Application concerns include longer dry-times with water based adhesives and urethanes used in ribbon applications process and fleece-backed materials.
- Some products have usage limitations based on climatic conditions; for example, the average lows in the South Coast Air Basin during December – February are such that some low VOC products can be used only between 10am-2pm during those months. In addition, even during those times when the ambient temperature may go above the temperature required to use the product, the surface temperature of the roof may remain cooler due to night-time radiative cooling. A white paper by the Director of Technology at Johns Manville, Zebonie Sukle, found the following:
 - Case studies demonstrating field issues with water-based and low VOC adhesives at temperatures below 55 degrees.
 - Lab testing and field data that demonstrates concerns when using water-based adhesive at temperatures less than 60 degrees with dew points of 45 and higher.
 - Application issues with the “spreadability” of low VOC adhesives at temperatures less than 60 degrees.

Compiled reports from both Associations’ members indicate installation-related performance issues with water-based and low VOC adhesives and sealants in the following states: Alabama, Georgia, Florida, Nevada, North Carolina, Texas, and California. Of the cases in California at least three roofs are *located in the South Coast Air Quality Management District*.

- Some products have shipping and storage limitations; for example, some water-based and low VOC products must be shipped at and stored at or above 60 degrees. If adhesives are shipped from a cold climate, they must not freeze during shipment and the product will be ruined and will need to be thrown out. Solvent based adhesives can be exposed to below freezing temperatures and then be brought up to room temperature and used, but water-based adhesives cannot. Therefore, even if application temperatures are high enough to install, getting the product to the customer can be an issue in the winter. The vast majority of roofing adhesives in the market today are manufactured in Indiana, Ohio, and Pennsylvania. In addition, not every distribution center and/or roofing contractor’s warehouse are climate controlled.
- Various professionals in the roofing industry have discussed issues with excessive rooftop moisture from concrete decking. Again, problems have been experienced in Southern California with base flashings adhered to concrete substrates (such as walls) with excess moisture using water based bonding adhesives (which are often mated too soon to hasten application, thus trapping moisture from the adhesive) to concrete substrates with excessive moisture often results in un-adhered areas. Solvent based bonding adhesives are much more forgiving in this regard (see article “Moisture Problems Overhead”).
- Many of the challenges associated with the use of water-based and LOW VOC products are related to temperature. While the climate of SCAQMD is generally temperate, temperatures

5-1
cont

drop below 50 degrees with some regularity and below 40 degrees on occasion. Based on the challenges outlined in the Suple research and detailed in case studies, roofing contractors in SCAQMD are going to encounter significant delays during periods of cold weather if they are required to use products that meet the proposed standards.

- While all of our manufacturing members offer some adhesives that meet the proposed standard, those particular products cannot be used in every roofing assembly and for every application. In particular, limiting the product availability of adhesives will likely force a move to only one type of roofing installation with a smaller number of components, thereby significantly limited availability for the Southern California consumer.

General Challenges with PAR 1168 and Proposed Limits

5-2

- The current VOC limit for roofing sealants is 450 g/L. PAR 1168 would reduce that limit to 250 g/L. Unfortunately, some sealants critical to most roofing applications are not available in such low VOC concentrations, and they are not expected to be available in the foreseeable future. In particular, cut edge sealant cannot meet the proposed 250 g/L limit. Moreover, there are some other specialized sealants used in some roofing applications that cannot meet the proposed limit. If the limit applies to all sealants uniformly, then the associated roofing applications will not be available in the District, severely restricting roofing options. The ERA and SPRI propose the development of subcategories for the product categories and that the limit remain at 450 g/L for some of these subcategories.

5-3

- The current VOC limit for roofing adhesives is 250 g/L. PAR 1168 would reduce that limit to 200 g/L. Unfortunately, adhesives critical to roofing applications that carry 30-year warranties are not available in such low VOC concentrations, and they are not expected to be available in the foreseeable future. If this limit applies to all roofing adhesives uniformly, then roofing applications will be limited to those that carry shorter 10- to 20-year warranties. This will result in more frequent re-roofing and increased roofing costs in the District, as compared with surrounding areas. These cost increases would certainly have a negative impact on the local roofing industry, in terms of both sales and employment. Roofs that are also replaced more frequently will negatively impact air quality by the transportation needed to deliver materials for the new roof and by transporting the old roof to the landfill. Moreover, low VOC adhesives have long curing times and temperature restrictions that only allow them to be used in warmer weather, which likely would significantly reduce the length of the roofing season, with negative impacts on sales and employment.

The SPRI and ERA propose the development of subcategories for the product categories and that the limit remain at 250 g/L for most adhesives. There is a sub-category of products, insulation adhesives, where there is sufficient product availability below 100 g/l.

5-4

- To determine if we can lower the VOC content of products to less than the proposed limits will require significant development efforts by all manufacturers. Since manufacturers warrant many roof systems for upwards of 30 years, they must conduct the proper studies to ensure that any new adhesive will perform over that period of time. This work includes laboratory studies, field studies and code testing with such entities as Factory Mutual and Underwriters Laboratories. This development work can easily exceed a 2-3 year time frame. After the development and approval processes, then time is needed to bring the products to the marketplace and train roofing contractors in the unique application methods of these new, lower VOC products. Therefore, the Associations request that single-ply and other roofing adhesives have the effective implementation date of January 1, 2023.

5-5

- In addition, as referenced above, the ERA and SPRI would like to propose subcategories for the product categories. However, the roofing manufacturing community needs adequate time to evaluate the technical merits of the proposed VOC standards for 50 categories of adhesives and sealants and provide feedback to the agency on the merits of the proposed subcategories. Therefore, the SPRI and ERA request a three month time period to develop the next set of comments on these subcategories and can provide this information the SCAQMD by September 30, 2017.

Conclusion

The Single Ply Roofing Industry (SPRI) and the EPDM Roofing Association (ERA), very much appreciate the generosity of the SCAQMD staff to take phone calls from and have meetings with our staff and members to answer questions and clarify issues. The SPRI and ERA are committed to improving air quality and continuing to work with SCAQMD staff to maintain an economically vibrant local roofing industry.

Thank you for your time.

Sincerely,



Ellen Breipohl Thorp
Associate Executive Director
EPDM Roofing Association



Mike Ennis
Technical Director
Single Ply Roofing Industry

cc: Mike Ducharme, Carlisle SynTec, Inc.; Chair, EPDM Roofing Association
Zeb Sukle, Johns Manville; President-Elect, Single Ply Roofing Industry



ERA | EPDM ROOFING
ASSOCIATION

August 30, 2017

Nicole Silva
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear Ms. Silva:

5-6

On behalf of the Single Ply Roofing Industry (SPRI) and the EPDM Roofing Association (ERA), we are providing joint comments on Proposed Amended Rule (PAR) 1168 – Adhesive and Sealant Applications (06/09/17 draft). The SPRI and the ERA are trade associations representing the manufacturers of commercial roofing products; member lists may be found on our websites. The Associations appreciate this opportunity to comment on PAR 1168 with an eye toward allowing the South Coast Air Quality Management District (District) to substantially achieve its emissions reductions goals while maintaining an economically vibrant local roofing industry.

The SPRI and ERA have been active in all aspects of the rulemaking on PAR 1168, including attending working group meetings, workshops and providing comments for the District staff's consideration in its forthcoming environmental assessment. The Associations are committed to improving air quality as evidenced by our work with the Northeast and Mid-Atlantic states as they adopted their new VOC regulations over the past ten years.

The purpose of this letter is to serve as a supplement to our communication dated July 17, 2017, to identify a new set of subcategories that is applicable to the single-ply roofing industry, and to set the VOC limits that the single-ply roofing industry can achieve in each subcategory.

(continued on next page)

The charts below detail these subcategories and limits.

Adhesives

Sub Category 2	Current VOC	PAR 1168 proposes	ERA-SPRI proposes
Single-Ply Roof Membrane Bonding Adhesive (Current)	250	200 by 2021	
Smooth Single-Ply Membrane Adhesive	-		stay at 250
Fleece Backed Single-Ply Membrane Adhesive	-		200 by 2019
Bituminous Membrane Adhesive	-		stay at 250
Insulation / Cover Board Adhesive	-		100 by 2019
Bituminous Flashing Adhesive			stay at 250

Sealants

Sub Category	Current VOC	PAR 1168 proposes	ERA-SPRI proposes
Single-Ply Roof Membrane (Current)	450	250 by 2021	
Single-Ply Roof Membrane - Lap Sealant / In-Seam Sealant	-		stay at 450
Single-Ply Roof Membrane - Cut Edge Sealant	-		250 by 2019
Single-Ply Roof Membrane OTHER - Non-Skinning / Non-Curing Water Block Sealant (water cut off mastic and term bar applications)	-		250 by 2021
Single-Ply Roof Membrane OTHER - Penetration Sealant (Pitch Pocket / Liquid Flashing)	-		250 by 2021
Bituminous Roofing Sealants	300		stay at 300

Primers

Sub Category 1	Sub Category 2	Current VOC	PAR 1168 proposes	ERA-SPRI Proposes
				-
Adhesive Primers	All other Adhesive Primers (includes Single Ply Membrane Primers)	250	250	
Adhesive Primers	Bituminous Membrane Primer (for Adhesive and Sealant)			increase to 350 (consistent with 1113)
Sealant Primers	All other Sealant Primers	750	750	

Conclusion

The Single Ply Roofing Industry (SPRI) and the EPDM Roofing Association (ERA), very much appreciate the generosity of the SCAQMD staff to take phone calls from and have meetings with our staff and members to answer questions and clarify issues. The SPRI and ERA are committed to improving air quality and continuing to work with SCAQMD staff to maintain an economically vibrant local roofing industry. We'd be happy to schedule another call with a small group to discuss any questions/concerns you may have.

Thank you for your time.

Sincerely,



Ellen Breipohl Thorp
Associate Executive Director
EPDM Roofing Association



Mike Ennis
Technical Director
Single Ply Roofing Industry

cc: Mike Ducharme, Carlisle SynTec, Inc.; Chair, EPDM Roofing Association
Zeb Sukle, Johns Manville; President-Elect, Single Ply Roofing Industry

Response 5-1

Staff appreciates the time spent by the commenter and the associations to give a thoughtful background explanation about the roofing industry and various roofing system applications.

Response 5-2

Staff is always willing to work with stakeholder to consider niche applications that may need higher VOC limits. This process takes time, as staff has to research the subcategories and begin the collaborative process of drafting new definitions. This process should occur at the beginning of the rule amendment. In this case, the process began in 2013/2014 when staff was proposing significant VOC reductions to roofing categories, with the inclusion of several exempt compounds. When staff removed the proposal to include new exempt compounds, staff changed the proposal to modest VOC reductions.

At this time, staff is proposing to extend the effective date of the lower VOC content limits to January 1, 2023 regarding roofing sealants, both Single-Ply Roof Membrane Sealants and All Other Roofing Sealants, and including a technology assessment to evaluate the potential subcategories the commenter suggests in Comment 5-6. Staff will incorporate the data received from reporting submittals in 2019, in addition to future stakeholder meetings regarding the technology assessment, to evaluate future possible subcategories for this category as well as other roofing categories.

Response 5-3

See response to comment 5-2. Staff is also proposing extending the effective date for roofing adhesives, which include the Single-Ply Roof Membrane Adhesives and All Other Roofing Adhesives, and a technology assessment for these categories to evaluate potential subcategories.

Response 5-4

Staff is proposing to extend the effective date of a lower VOC content limit for the four roofing categories to January 1, 2023.

Response 5-5

Staff spoke with the commenters regarding the time requested to suggest potential new subcategories. Given the thoughtful response from the commenter in this letter, staff has proposed a technology assessment for the roofing categories to fully evaluate and define potential new roofing subcategories prior to the proposed effective dates for VOC reductions.

Response 5-6

See response to 5-2.

Staff appreciates the commenter's efforts to provide suggested subcategories for the roofing categories within the given comment period. Although subcategories were suggested, staff was not provided supplemental documentation to define or evaluate those subcategories, nor –the

market share of those subcategories. The technology assessment is being proposed in lieu of creating new subcategories and allow time to properly define and evaluate these proposed new roofing subcategories.

Comment Letter #6



August 31, 2017

Nicole Silva
Planning, Rule Development & Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

RE: Proposed Amended Rule 1168 Public Workshop; ACA Comments

Dear Ms. Silva:

The American Coatings Association (ACA)¹ submits the following comments regarding South Coast Air Quality Management District's (SCAQMD) Public Workshop on Proposed Amended Rule 1168. ACA appreciates the opportunity to provide comments on Rule 1168's proposed regulatory text and VOC standards. As always, our goal is to meet the District's need to maximize VOC reductions and provide top quality adhesive and sealant products for customers in the South Coast basin. We look forward to assisting SCAQMD throughout this rulemaking process.

ACA submits the following comments:

1. ACA Reiterates its Earlier Written Comments

ACA understands that SCAQMD has updated its Rule 1168 regulatory language to reflect several stakeholder comments that were made in both written and oral form before and during past Working Group meetings and at the Public Workshop. However, a number of our written comments were not specifically responded to and we want to reiterate the positions taken in those comments.² Comments that have not been responded to include:

- 6-1 - SCAQMD's inclusion of consumer products used in industrial settings to Rule 1168;
- 6-2 - Extending the compliance date for Rubber Vulcanization Adhesives;
- 6-3 - Modifying definitions;
- 6-4 - Changing the Aerosol Test Method Back to CARB Method 310;
- 6-5 - Extending the time for limits of new categories instead of having the limits apply upon adoption (i.e. foam sealant, grout, potable water, and clear, paintable, immediately water resistant);
- 6-6 - Using an initial baseline survey, supplemented by external data, rather than imposing the current reporting requirements;
- 6-7 - Requiring manufacturers to submit the volume of regulated products with the VOC content higher than the applicable limit;
- 6-8 - Adding unit harmonization;

¹ The American Coatings Association (ACA) is a voluntary, nonprofit trade association working to advance the needs of the paint and coatings industry and the professionals who work in it. The organization represents paint and coatings manufacturers, raw materials suppliers, distributors, and technical professionals. ACA serves as an advocate and ally for members on legislative, regulatory, and judicial issues, and provides forums for the advancement and promotion of the industry through educational and professional development services.

² ACA Written Comments submitted via email to Nicole Silva on 6/21/2017, 7/6/2017, and 8/2/2017.

- 6-9 - Including a later labeling compliance date;
- 6-10 - Removing facility reporting; and
- 6-11 - Standardizing the notification requirements.

Additionally, as stated previously, ACA believes that the estimated emissions reduction of 1.43 tpd is negligible compared to the burden that the Rule 1168 requirements impose on the regulated community.³

2. ACA Requests a Technology Assessment for the Clear, Paintable, and Immediately Water-Resistant Product Category

6-12

In Table 1, the category of “Clear, Paintable, Immediately Water-Resistant” is listed as having a current limit of 250 g/L because of the already-existing “All Other Architectural Applications” category. Upon adoption, SCAQMD proposes to raise the limit to 380 g/L, which appears to be the sales weighted average of products currently sold in the South Coast basin (as determined by the SCAQMD 2013/2014 Survey).⁴ Since there are no products that meet the proposed 250 g/L limit, ACA believes that this limit that becomes effective in 2021 is technology forcing. At this time, there are no products that are clear, paintable, immediately water-resistant, effective, and meet the 250 g/L limit. SCAQMD has limited data on these products, as well. Thus, ACA requests that SCAQMD complete a technology assessment for “Clear, Paintable, Immediately Water-Resistant” products to ensure that they can meet the 250 g/L limit and still be effective before the limit goes into effect in 2021.

As ACA has reiterated in previous comments, survey/manufacture reporting data should not be used to determine which limits are technologically feasible. Technology assessments are extremely important because they indicate which products are really working and performing as labeled. As such, ACA requests that SCAQMD complete a technology assessment for the “Clear, Paintable, Immediately Water-Resistant” product category before the proposed 250 g/L limit goes into effect in 2021.

3. Test Methods

6-13

ACA appreciates Staff’s removal of paragraph (e)(6) and the clarification that has been made to paragraph (e)(1). ACA supports the revised language in paragraph (e)(1). However, we would like more clarification and information about the guidance document that was mentioned during the Public Workshop. We appreciate that SCAQMD will be seeking stakeholder input in the development of the guidance document that will clarify which product types are tested by which test method. As always, ACA is happy to discuss which test methods would be appropriate for each product category.

4. ACA Requests the Following Changes to the Reporting Requirements

6-14

ACA appreciates how receptive SCAQMD has been in working with industry to come up with fair and reasonable reporting requirements under Rule 1168. However, as we have stated before, we still have issues with the reporting requirements in section (f)(2) as written. District Staff has repeatedly stressed the importance of collecting accurate adhesive and sealant inventory data for planning purposes. ACA fully understands the need for SCAQMD to gather this information, especially because the 2016 AQMP severely underestimated this inventory of regulated products. But, as we have stated several times

³ SCAQMD Preliminary Draft Staff Report (July 2017), page 42.

⁴ SCAQMD Working Group Meeting #2 Presentation.

before, compiling the information at the level of detail that the District is requiring will be extremely costly in time, money, and resources for our industry.

ACA acknowledges SCAQMD's stance that the Rule 1168 reporting requirements will not be as burdensome on industry as expected. However, we respectfully disagree. The most recent version of the rule requires distributors to report. From our understanding, SCAQMD included this provision in the hopes that it may lessen the burden on industry. But rather than lessening the burden, this creates an extra step for both manufacturers and distributors to ensure that their reports are accurate and complete. For larger companies, this issue will be especially pronounced because they have a widespread network of distributors and regulated products for which they will have to compile information. The reporting requirements remain very burdensome for industry as currently written.

Thus, as requested previously, we ask that SCAQMD allow for manufacturers to use alternate options such as "California Population Factors" or other tools to reduce the burden on our members associated with reporting. We acknowledge that SCAQMD VOC limits are different than those limits in neighboring districts, but this approach will still give both manufacturers and SCAQMD a general sense of the amount of products sold in the South Coast basin.

Thank you for your consideration of our concerns. Please do not hesitate to contact us if you have any questions.

Sincerely,



Rhett Cash
Counsel, Government Affairs



Raleigh Davis
Assistant Director, Environmental Health and Safety

Response 6-1

Please see the ~~Key Concerns~~ issues section in this staff report and responses to comments 1-1, 1-2, and 1-3.

Response 6-2

In the commenter's August 2, 2017 letter, the commenter requested staff to extend the proposed effective date for the 250 g/L VOC limit for Rubber Vulcanization Adhesives to January 1, 2022. The commenter requested this to parallel the 2014 proposal, which had proposed four years for reformulation (2014-2019). Staff received verbal support from other stakeholders stating that the proposed 2021 effective date is feasible. Staff has further revised the effective date to 2023. Staff would like to point out to industry that the proposal of 250 g/L was initially proposed October 23, 2013, which will have given industry ten years to reformulate to meet the proposed 2023 deadline.

Response 6-3

Staff has modified many definitions based on stakeholder feedback. Regarding those that the commenter has pointed out in previous letters:

- Aerosol Adhesive – See response to comment 1-6.
- Big Box Retailer – Staff appreciates the comment and included the “North American Industry Classification System code 444110: Home Centers.”. This definition differs from the current definition in Rule 314 but was proposed during the 2015 amendment. Unrelated to that suggested definition change, the rule was not amended at that time. The North American Industry Classification System or NAICS codes have largely replaced Standard Industrial Classification (SIC) codes so it is a more appropriate reference. The next time Rule 314 is amended, this definition will be changed.

Response 6-4

Stakeholders requested CARB Test Method 310 be included to measure the VOC content of aerosols. When staff removed the proposal to limit the exemption, staff did not see a need to include that test method. The proposed amendment includes VOC limits for foam sealants and ~~insulating foams~~ insulation, but CARB Method 310 does not include a methodology for measuring the VOC of expanding foams. SCAQMD laboratory staff is working to develop a method for these materials and will work with stakeholders during the method development.

Response 6-5

Staff modified the original proposed effective dates for various categories, which had lower VOC limits with effective dates upon adoption. Staff retained various reduced VOC limits for those categories in which survey data or industry has demonstrated that the proposed limits would be achievable upon adoption. When staff sets a VOC limit to be effective upon adoption, it is to reflect what is currently available in the field, not to achieve emission reductions. If a stakeholder demonstrated there were products that did not meet that limit, staff made adjustments to address those products.

Response 6-6

The baseline voluntary product survey had poor response from many market segments. With the limited survey response, staff was forced to rely upon other methods of determining product availability including shelf surveys and product literature. Staff proposed the reporting schedule with the initial three year frequency, as suggested by this commenter during a working group meeting. Although staff is proposing a particular schedule for manufacturers, private labelers, Big Box retailers, and distribution centers, staff believes that an annual report for products with unlimited VOC content sold under the 55 gallon per year exemption is still warranted as it will identify problem areas within the rule and deter overuse of the exemption.

Response 6-7

The reporting requirement applies to all products sold into or within the SCAQMD. As with many rules, there are exemptions that allow for products to be sold that exceed the current VOC limits (e.g. small use exemptions – 55 gallons, alternative compliance options, alternative VOC limit for low-solids products). Staff is including a mechanism for the manufacturers to report these products with a qualifier to indicate that they are not selling non-compliant product but products that fall under one of the exemptions. This is consistent with the reporting under Rule 314, which contains similar flags for products sold under the small container exemption, the 4,000 foot exemptions, or low solids products.

Response 6-8

The VOC limits for Rule 1168 have been in “g/L” since adoption, and staff is not proposing to change that at this time. The g/L unit of measure is consistent for VOC limits in SCAQMD VOC rules. Please also see response to comment 2-1.

Staff understands that the CARB CPR requires that VOC limits are listed in “weight percent of VOC,” and staff has proposed to allow an alternative to labeling requirements in “g/L” provided the manufacturer include “g/L” units on supplemental documentation.

Response 6-9

Staff agrees and is proposing a January 1, 2019 effective date for labeling requirements.

Response 6-10

Facilities using or applying regulated product within the District currently have to comply with Rule 109 – Recordkeeping for Volatile Organic Compound Emissions to adhere to the provision in paragraph (d) of the rule. The facility reporting requirement is only for those utilizing the 55-gallon per year exemption, and would just require those records to be submitted to the District. These reports will be used by staff to evaluate compliance with the 55 gallon/year exemption, as well as understanding if there are regulated products that are consistently sold above the VOC limits and need to be addressed. This reporting requirement will also ensure that staff has an accurate inventory as staff can compare end-user reporting to what is reported by the manufacturers and private labelers.

Response 6-11

~~District staff~~Staff will not include explicit requirements for a manufacturer, supplier, or distributor to demonstrate written proof that the regulated products exceeding the VOC limits will not be sold or used within the SCAQMD's jurisdiction. In past rule making, stakeholders requested the rules not be prescriptive but allow flexibility for complying with the requirements. Staff will provide a guidance document on the District's webpage, which will provide options to demonstrate compliance with this section of the rule.

Response 6-12

See Response to Comment 2-2.

Response 6-13

See Response to Comment 2-3.

Please see the ~~Test~~ ~~m~~Method section in this report for a more detailed discussion of the guidance document development.

Response 6-14

See Response to Comment 1-6.

Staff proposed Big Box retailers and ~~Distributor~~ distribution centers to submit reports to the manufacturers based on feedback during working group meeting that the manufacturers cannot determine where their products ultimately are sold when they sell to a distribution center. There is a similar construct in Rule 314. Stakeholders indicated that they do not know where products are ultimately sold when shipped to the Big Box distribution center, so staff included a reporting requirement for the Big Box retailers to report to the manufacturers. Unlike architectural coatings, adhesives and sealants are not predominantly sold at Big Box stores so the proposal also includes distribution centers. The intent of the reporting is to provide accurate information to the District.

Comment Letter #7



August 31, 2017

Mr. Michael Krause
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Re: Public comments to Proposed Amended Rule 1168—Adhesives

Dear Mike:

RadTech International hereby reiterates the comments we have made in writing and during the public consultation process on proposed amended rule (PAR) 1168. We were thankful that staff expressed a willingness to make changes to the proposal presented at the most recent public consultation meeting. However, we are disheartened that staff's position regarding our two main issues (1) Inclusion of test method for enforcement purposes and (2) Exemption from the overly prescriptive recordkeeping requirements; remains unchanged.

Inclusion of Test Methods for UV/EB/LED

RadTech commends the district for including a definition for energy curable materials in Section (b)(28) of the proposed rule and providing clarification regarding test methodology. However, we cannot support the concept of creating two different mechanisms (one for "information-only" and one for enforcement) to test materials. RadTech urges the inclusion of ASTM D7767-11 in both the Definition and the Test Method section of the rule. ASTM D7767-11 is the best tool available today to measure VOC emissions from UV/EB thin film materials. We had previously reached consensus with the district regarding the inapplicability of Method 24 and SCAQMD Method 313 to UV/EB materials. Thus, we would suggest that an additional sub-section (K) be added to Section (e)(1) to read as follows:

7-1

(K) The VOC content of Energy Curable Adhesives and Sealants shall be determined by ASTM Test Method D7767-11- Standard Test Method to Measure Volatiles from Radiation Curable Acrylate Monomers, Oligomers, and Blends and Thin Coatings Made from Them.

Additionally, the rule includes a method for "thick film" adhesives which is not applicable to UV/EB/LED materials. The following language would ensure clarity:

(L) The VOC content of Non-Thin Film Energy Curable Adhesives and Sealants shall be determined by ASTM Test Method D5403-93- Standard Test Methods for Volatile Content of Radiation Curable Materials.

7-1
Cont Staff has stated that the ASTM method is not a “direct” method but, the GCMS alternative is also an indirect method. It does not allow VOC’s from a cured coating to be measured at the end use location and using the end use cure conditions (which includes backing, geometry, source, line speed, environment (air or nitrogen), etc.). The GCMS method has a level of uncertainty in the correlation to real emissions in use. As per a request from district staff in 2013, we have provided you with a procedure to calculate VOC’s from a fully formulated product using ASTM D7767-11.

Exemption from Reporting & Recordkeeping

7-2 We urge the district to provide incentives to companies who reduce their emissions by exempting UV/EB/LED materials that exceed the rule requirements. We are supportive of the concept of reducing recordkeeping burdens for those materials and believe those operations should not be subjected to the same labeling and recordkeeping requirements as their higher emitting counterparts. We request that UV/EB/LED materials containing 50 grams per liter of VOC or less, be exempted from the Administrative Requirements in Section (f)(1) and the Reporting Requirements in Section (f)(2) of PAR 1168. In 2021, the lowest limit in the rule will be 20 grams per liter and as such, we would be open to lowering the limit to 20 grams per liter in 2021 to ensure consistency. We are especially concerned with the consequences of this proposal on the medical device industry as it may hamper the manufacture of life saving medical products.

7-3 We have seen how overly prescriptive regulations have had the unintended consequences of driving business out of the basin. As a result, emissions from goods movement have increased as products are manufactured elsewhere and either shipped in or trucked into the basin. Thus, there is a correlation between the exodus of manufacturing from the Basin and emissions associated with goods movement. We ask that you analyze the emissions impact of goods movement as part of the CEQA process in the rule.

Guidance Document

7-4 We were recently informed that staff intends to provide additional clarifications on rule language interpretation, after rule adoption via a “Guidance Document”. Although well intentioned, we are not supportive of this concept because there is no assurance that the Board will be involved. For lack of a better term, this would amount to “underground” rulemaking. If a rule needs a guidance document to interpret it after the board has adopted it, the rule itself is not sufficiently clear and thus does not meet the requirements for Clarity in the Health and Safety Code.

We appreciate your attention to these issues and look forward to a productive rulemaking effort.

Sincerely

Rita M. Loof
Director, Environmental Affairs

Cc: Wayne Nastri, Nicole Silva, Heather Farr, Barbara Radlein

Final Staff Report

Response 7-1

Please see the ~~Test m~~Method section of this report for the discussion on why ASTM 7767 cannot be used as an enforcement method. Regarding the GC/MS test method, that method does directly measure the VOCs of the fully formulated coating obtained in the field. Staff is aware that all test methods have a degree of uncertainty, and addresses that uncertainty with precision and bias studies. The issue with ASTM 7767 is the testing is not conducted on the fully formulated ~~coatings~~ regulated product that can be obtained in the field, but rather on the various components of the product.

Regarding the clarification for ASTM D5403, that method is included in SCAQMD Method 304 but is not explicitly referenced in the rule. Staff acknowledges that method is not appropriate for thin-film energy curable adhesives or sealants, and added a discussion in ~~the this Draft Staff Report.~~

Response 7-2

Staff would like to encourage the use of ultra-low VOC products, which staff defines as well below 50 g/L. Super compliant architectural coatings are defined as less than 10 g/L VOC of coating, Rule 314 exempts coatings less than 5 g/L VOC of material, Clean Air Solvents and Clean Air Cleaner Choices are certified if they contain less than 25 g/L of solvent. As stated, this proposal contains a record-keeping exemption for regulated products that contain less than 20 g/L. These products cannot be excluded from the labeling requirements as labeling is how compliance staff verifies rule compliance in the field. Concerning reporting, if the manufacturers did not report these products, it would not be possible to determine accurate emission inventories or observe trends in the use of ultra-low VOC content products.

Response 7-3

See CEQA Final EA for an evaluation of impacts.

Response 7-4

As stated in this staff report, the working group will ~~determine~~ bring the Guidance Document to the necessity of Governing Board for approval for the guidance document.

Comment Letter #8

To summarize our comments (also dated 8-31-17) as a manufacturer of clear, paintable, immediately water resistant sealants we are proposing the following changes regarding the latest draft rule language for Rule 1168:

- 8-1 **1. (Item #1 in our comments)**
In Table 1 the 1/1/2021 level of 250 g/L level for Clear, Paintable, Immediately Water Resistant (CPIWR) sealants does not include a technology assessment. Please add an asterisk denoting a technology assessment for these products because there is no known technology today that will allow for this lowered VOC limit, and no products in this category that can meet this lowered VOC limit.
- 8-2 **2. (Item #2 in our comments)**
The definition of “clear” in the Clear, Paintable, Immediately Water Resistant category should be further defined. Clear, paintable, immediately water resistant materials will have clarity of 15 NTU or less per ASTM D7315 and color of Gardner 0 as tested by ASTM D1544 or Platinum-Cobalt Color of 50 or less using ASTM D1209 as manufactured and packaged.
- 8-3 **3. (Item #3 in our comments)**
Referring again to Table 1 in PAR 1168, it is our recommendation that because the CPIWR category does not exist under the “Current 2005 Version” of Rule 1168, the “Current 2005 Version” VOC limit number of 250 g/L should be removed for CPIWR sealants in Table 1.
- 8-4 **4. Further information on sales reporting (Item #4 in our comments)**
It is not clear from the current revisions to Rule 1168 how to comprehensively report sales in your district for manufacturers like us that sell via 2-step distributors. We often do not know what retailers have our products, let alone the sales of those products. We are requesting that SCAQMD provide further thoughts, recommendations, and solutions to give clarity in the process. The reporting process as currently written could give SCAQMD suspect data until a solid reporting system is agreed upon, built, and tested for functionality.

Please feel free to contact us if you have questions or need further clarity on the issues we have discussed.

Regards,

Darci Kunard and Andy Spoelstra
Sashco, Inc.

Response 8-1

See response to comment 2-2.

Response 8-2

Staff appreciates the feedback and revised the definition for Clear, Paintable, and Immediately Water-Resistant to include test methods and benchmarks to distinguish when a product is “clear” and “paintable.”

Response 8-3

The CARB correspondence letters were written to clarify when a consumer product can be regulated by the local air districts, e.g., what it means if a product is excluded from a definition or does not have a VOC limit. These letters express disagreement with industry’s stance that products

Final Staff Report

that were excluded from the CARB CPR, such as Clear, Paintable, and Immediately Water-Resistant Sealants, were “regulated” by the CARB CPR. The correspondence letters support SCAQMD’s understanding of its regulatory authority over consumer products and which products are excluded from the CARB CPR.

Although staff understands that the commenter took the position of interpreting both regulations as excluding Clear, Paintable, and Immediately Water-Resistant Sealants, the position of both agencies was made clear to stakeholders during the 2013/2014 rule amendment process. This is not a recent interpretation from either agency.

Clear, Paintable, and Immediately Water-Resistant Sealants, still fall under the definition of sealants. Those products, such as those sold by the commenter, would be classified as architectural sealants. Since there is a limit for architectural sealants in the current version of the rule, and the marketing literature for the commenter’s products support that categorization, it is SCAQMD’s position that these products have always been regulated by the SCAQMD’s Rule 1168.

Response 8-4

See response to comments 6-14.

The reporting will be similar to that of Rule 314. Stakeholders commented that they do not know the final destination of a product if it is sent to a distribution center either within or out of the SCAQMD. To address this uncertainty, the Big Box retailers ~~Stores~~ and ~~Distributors~~ distribution centers will report the sales volume of products that was sold into or within the SCAQMD. If the manufacturer can determine the final destination of their products based on their current systems, they do not have to rely on the Big Box ~~Store-retailer~~ or ~~Distributor~~ distribution center ~~r~~Reports. If not, the manufacturer can compile their direct sales but use the Big Box ~~Store-retailer~~ and ~~Distributor~~ distribution center ~~R~~reports to determine the sales that could have been distributed outside the SCAQMD. Staff will also conduct more outreach after the proposed rule has been approved to further educate stakeholders as to what their specific requirements are in regards to the proposed reporting.

Comment Letter #9



August 28, 2017

South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765-4178

Sent by e-mail to
N.Silva@aqmd.gov
with original by US Mail

Attn: Nicole Silva, Air Quality Specialist

RE: COMMENTS ON PROPOSED CHANGES TO RULE 1168
ROOFING ADHESIVES IN PRESSURIZED CANISTERS

As requested at the workshop held August 17, 2017 to discuss changes in South Coast AQMD Rule 1168, Sage ATC Environmental Consulting LLC (Sage ATC) is submitting the following comments for consideration.

Scope of Comments

Sage ATC represents a manufacturer who desires clarification on determining Volatile Organic Compound (VOC) content for two distinct urethane roofing adhesive products delivered under pressure from canister systems.

1. A single canister pressurized system containing a suspension of a diisocyanate compound, propellant and an amount of exempt or nonexempt VOC compound (dependent on application) that are applied through a hose and discharged from a nozzle to react by polymerization with water vapor in air to become an adhesive once released from the canister.
2. A two canister pressurized system with each canister containing one material that is mixed through a nozzle which then hardens in a polymerization process to form a polyurethane (typical example: Part 1 methylene diphenyl diisocyanate and Part 2 diethylene glycol, or similar hydroxyl containing compound). Discharge occurs via a separate delivery line from each canister through a manifold at a spray gun, thus discharging a reacting product to the work surface. Mixing occurs in the spray gun through a static mixer (motionless mixer) nozzle for delivery to the work surface.

These products will need to be tested in order to determine their VOC content to certify that they meet both the existing and proposed standards for roofing adhesives. Although considerable amount of discussion on test methods occurred during the workshop, I am concerned that our specific application for materials found in pressurized canisters has not yet been adequately addressed.

506 W. VISTA WAY • VISTA, CALIFORNIA • 92083 • 760/724-5732 • FAX 760/724-5737

Specific Comments

- 9-2 1) Both the existing and proposed changes to Rule 1168 do not include a category specifically for roofing adhesives delivered by a pressurized system, such as a 5-gallon canister. It does not appear that the pressurized product in the canister would qualify for listing as an aerosol. We would like to see a new category created for this type of pressurized product, which is much different than the traditional “mop-on” roofing adhesives that the AQMD may be familiar with.
- 9-3 2) The test methods do not appear to give adequate guidance on how to proceed with determining the VOC content of a pressurized canister.
- 3) Any test procedure that is referenced or developed for these product found in pressurized containers should recognize that these materials contain reactive products that should be evaluated for VOC content after curing.
- 9-4 4) Since the definition of a Reactive Diluent, as found in renumbered definition No. 72, has been replaced with Reactive Product, it appears that the use of reactive diluent found in renumbered definition 36 should also be replaced with reactive product, i.e. to read:
- “for regulated products that contain reactive diluent products”
- 9-5 5) A new definition should be added for the term “Reactive Adhesive” which is used in Test Methods Section (e)(1)(H).
- 9-6 6) A worked example of how the various components of the equation for VOC content would be determined in the case of a pressurized canister containing reactive products would appear to be quite helpful as guidance for properly determining the VOC content and compliance with the Rule.

I would be please to discuss and clarify these comments as necessary. Please feel free to contact me at (760) 724-5732.

Sincerely,

Sage ATC Environmental Consulting LLC



Paul A. Weir
Senior Engineer
Certified Permitting Professional B4341

Roofing Adhesive Silvalett I

Final Staff Report

Response 9-1

Staff would need further information regarding the adhesive systems described in the letter to definitively state how the adhesives would be tested. Staff welcomes further discussions with the manufacturer. Typical urethane systems can be tested by EPA Method 24. If the propellant is a VOC, it must be included in the VOC calculation. The manufacturer can rely on formulation data as well as laboratory testing to demonstrate compliance with the method.

Response 9-2

While Rule 1168 does not specifically address adhesives delivered by a pressurized canister, if the product meets the definition of an adhesive (any substance that is used to bond one surface to another surface by attachment), it would fall under Rule 1168. The specific category depends on the use of the product, not the delivery mechanism, unless the application is specifically exempted in subdivision (i).

Response 9-3

The VOC content is dependent on the product inside the canister and the type of propellant used. Staff can include further information in the guidance document it will develop and encourages the manufacturer ~~will to~~ participate in that future process.

Staff is very familiar with conducting VOC testing on reactive products.

Response 9-4

Thank you for this comment, staff concurs and amended the definition.

Response 9-5

Staff amended the definition of reactive products to clarify that it includes adhesives, adhesive primers, sealants, and sealant primers. Test method (e)(1)(H) is for a sandwich method where the product is placed between two substrates. That method is not applicable to sealants; therefore, it specifies reactive adhesives.

Response 9-6

Staff will work to include the suggested example in the guidance document.

Comment Letter #10



August 31, 2017

Nicole Silva
Air Quality Specialist
Planning, Rule Development & Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

Re: Proposed Amended Rule 1168 – Adhesive and Sealant Applications

Via: Electronic Mail

Dear Ms. Silva:

10-1

The American Chemistry Council's Center for the Polyurethanes Industry¹ (CPI) appreciates the opportunity to provide these comments to the South Coast Air Quality Management District (SCAQMD) in response to the Proposed Amended Rule 1168 – Adhesive and Sealant Applications. CPI thanks SCAQMD for its willingness to meet with our organization; these comments build upon the discussion with SCAQMD during our meeting on August 30, 2017. Our comments focus on the definition of the foam sealant product category, and the proposed 50 g/L volatile organic compound (VOC) content limit for January 1, 2023. Additionally, CPI offers several technical corrections to Table 7 of the Preliminary Draft Staff Report. CPI intends these comments to be constructive to help ensure that the final rule is both technically accurate and feasible in its implementation.

Foam sealants increase energy efficiency of buildings, which in turn reduces emissions of greenhouse gases and helps California meet both its climate and energy efficiency goals. More specifically, in 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32) which sought to reduce greenhouse gas emission to 1990 levels by 2020. This was followed by Governor Brown signing Executive Order B-30-15 in August 2015, which seeks to reduce greenhouse gas emissions 40% below 1990 levels by 2030. California's landmark SB 350 requires that the State double its energy efficiency, and building code, Title 24, requires that all new residential construction in the State be zero net energy-ready. Any implementation of a 50 g/L VOC content limit could significantly alter the availability of foam sealants in South Coast and hinder the State's progress towards the aforementioned goals. Given that up to 40

¹ The Center for the Polyurethanes Industry (CPI) of the American Chemistry Council serves as the voice of the polyurethanes industry in North America, promoting its development and coordinating with polyurethane trade associations across the globe. The polyurethane industry supports research and initiatives that serve its communities and customers. The business of polyurethane is a \$26.5 billion enterprise and a key element of the U.S. economy. The industry operates in more than 1,000 locations in the U.S. and directly employs more than 46,500. A major job creator in the U.S., each job in the polyurethanes industry yields five more jobs indirectly for an approximate total of 235,000 jobs supported.



CPI comments to SCAQMD Re: Rule 1168

August 31, 2017

Page 2

percent of a building's energy is lost due to air infiltration,² foam sealants provide a simple and cost effective method to increase a building's energy efficiency.

1. Product Definitions

The proposed definition for "foam sealant" is overly broad and does not provide the needed specificity to the regulated community.

One component (1K) foam sealants contain pre-polymerized polyurethane foam and blowing agents used to form the cellular structure of the foam. There are two distinct types of 1K foam sealants: those found in aerosol cans (between 12oz and 29oz) and those found in canisters (between 10 pounds and 25 pounds). Aerosol cans of foam sealant, often referred to as "foam in a can," generally use hydrocarbon (HC) gas as the propellant *and* the foam blowing agent. In contrast, canisters generally use hydrofluorocarbons (HFCs) as the foam blowing agent. Because 1K canisters do not use HC propellant / blowing agents,³ they tend to be low VOC products, often as low as 50 g/L, or lower.

10-2

Two component (2K) low pressure (LP) foam sealants come in kits of two canisters. The "A-side" contains methylene diphenyl isocyanate (MDI), and the "B-side" contains a mixture of polyols, blowing agents and other additives. The blowing agents used in 2K foam sealant kits are generally HFCs or Hydrofluoroolefins (HFOs). Similar to the 1K canisters these products tend to be low VOC products, 50 g/L or below.

Because spray polyurethane foam (SPF) insulation is not a sealant, 2K SPF insulation products do not fall within the scope of Rule 1168. Therefore, the reference to, and definition of, "insulation foam" should be removed from the proposal. In Rule 1168, SCAQMD defines sealants as:

SEALANT is any material with adhesive properties that is formulated primarily to fill, seal, or waterproof gaps or joints between two surfaces. Sealants include caulks. Sealant does not include any sealer that is applied as a continuous coating.

SPF insulation is used to insulate a building, not to seal gaps or joints. During our August 30, 2017 meeting, SCAQMD representatives implied that applying SPF insulation into a wall cavity is considered filling or sealing the gap between the studs in a wall or joists in an attic. This interpretation of "gap," is overly expansive and will allow SCAQMD to regulate any product that is applied in vacant space between two objects.

² https://www.energystar.gov/index.cfm?c=new_homes_features.hm_f_reduced_air_infiltration

³ 1K foam sealant canisters often use HFC-134a as the blowing agent. EPA exempts HFC-134a from the definition of a VOC. (See 40CFR51.100(s)).



CPI comments to SCAQMD Re: Rule 1168
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Both types of 1K foam sealants and 2K LP foam sealants are not insulation products. Therefore, CPI proposes the following changes:

10-2
cont

(35) FOAM SEALANT is a foam used to fill and form a durable, airtight, water resistant seal to common building substrates such as wood, brick, concrete, foam board and plastics. ~~Foam sealant includes insulating foam.~~

~~(43) INSULATING FOAM is polymer containing material injected into wall cavities to provide thermal resistance and sound reduction.~~

When developing VOC content restrictions for the foam sealant category, SCAQMD must consider the different types of foam sealant formulations. 1K aerosolized cans, 1K canisters, and 2K LP sealants are all different products. 1K aerosol cans contain HC blowing agent, that also serves as the propellant. The HC generally drives the VOC content. 1K canisters and 2K LP sealants use HFCs or HFOs as the blowing agent and therefore are significantly lower in VOC content, as previously mentioned.

2. VOC Content Limits

Because 1K aerosol cans of foam sealant (“foam in a can”) use HC as the propellant *and* blowing agent, there is not a drop-in substitute for HC propellants readily available. Any mandated change to a lower VOC propellant would require a complete reformulation to ensure adequate foam quality and functionality, and possibly result in a complete re-qualification, re-evaluation and re-listing, per the local building code.

10-3

Given the uncertain regulatory landscape of HFCs,⁴ HC propellants remain the only technically viable chemistry that provides the necessary pressure to apply the foam sealant. Typically, industry needs 3 to 5 years to transition to a new formulation. This time frame includes research, design and testing, as well as time to seek the necessary approvals under local building code requirements. CPI commends SCAQMD’s inclusion of a provision to conduct a technology assessment, however, the assessment should be used to make reliable and informed decision making and must be conducted significantly prior to any implementation of lower VOC content limit to allow the market sufficient time to transition.

As manufacturers have indicated, no market-ready “foam in a can” formulation currently exists that replaces HC propellants; therefore, transitioning to the proposed foam sealant VOC limit of 50 g/L on January 1, 2023 will likely be disruptive and unworkable. CPI believes that the 50 g/L limit is not currently feasible, and therefore requests that SCAQMD withdraw the proposed 50 g/L limit and conduct a technology assessment on lower VOC propellants for 1K foam sealants. A new proposed rule could result if the District finds that the necessary technology exists. Conducting the technology assessment and issuing a new proposal, if needed, will provide the necessary regulatory certainty to manufacturers.

⁴ See *Mexichem Fluor v. EPA*, U.S. Court of Appeals, DC Circuit, August 8, 2017.



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To address these concerns, CPI suggests the following changes to the proposed regulations:

Category	VOC Limits (g/L)*				
	Current	Upon Adoption	1/1/2019	1/1/2021	1/1/2023
Foam Sealant	250	200			50**

*VOC limits are expressed as grams of VOC per liter of regulated products less water and less exempt compounds as determined in paragraph (b)(36) except for low-solid regulated products where the VOC limit is expressed in grams per liter of material as determined in paragraph (b)(37).

**Technology assessment will be conducted by January 1, 2022 and the Executive Officer shall report on the results of the technology assessment to the Stationary Source Committee prior to the January 1, 2023 implementation date. SCAQMD will issue a proposed Rule 1168 to implement any new VOC content limits.

10-3

In the alternative, SCAQMD can consider developing a more feasible timeline for the technology assessment. CPI proposes that SCAQMD conduct the technology assessment by January 1, 2019, and report the results to the Stationary Source Committee by January 1, 2020. This will give industry 3 years to reformulate, if SCAQMD determines that the necessary technology exists. If the assessment cannot be conducted by January 2019, any proposed content limit date should be adjusted to at least January 1, 2025.

In this alternative approach, CPI proposes:

Category	VOC Limits (g/L)*				
	Current	Upon Adoption	1/1/2019	1/1/2021	1/1/2023 (or 1/1/25)
Foam Sealant	250	200			50**

*VOC limits are expressed as grams of VOC per liter of regulated products less water and less exempt compounds as determined in paragraph (b)(36) except for low-solid regulated products where the VOC limit is expressed in grams per liter of material as determined in paragraph (b)(37).

**Technology assessment will be conducted by January 1, ~~2019~~ 2022 and the Executive Officer shall report on the results of the technology assessment to the Stationary Source Committee prior to the January 1, ~~2020~~ 2023 implementation date.



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3. Corrections to the Draft Staff Report

CPI offers the following changes to the Preliminary Draft Staff Report:

The foam sealant itself is typically one component pre-polymerized polyurethane or two component kits polyurethane or two component isocyanate based and contains little or no VOC. However, the propellants used in some of the aerosol products do contribute to the VOC content.

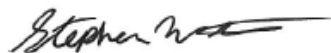
10-4

Table 7 of the Preliminary Draft Staff Report contains several errors needing correction:

- the VOC content of DAP Kwik Foam is 194 g/L, not 19 g/L.
- Canadian Industrial Distributors One-Component Polyurethane Cylinder Foam and Fomo Handifoam 40 aerosol cans are no longer on the market.
- Hilti CF812 contains propellant using a mixture of three hydrocarbons at level of 5%-15% each. The VOC content reported in Table 7 may be incorrect.
- TACC Miracle FoamSeal 2100A and ITW TACC Miracle FoamSeal F6400 LVR are structural adhesives and should be removed from Table 7.
- Tiger Foam and Icynene LD50 are manufactured as multiple types of polyurethane foam products. The 2K SPF products are not foam sealants. Table 7 should be updated to include the specific product that is being referenced with the correct VOC content.

CPI welcomes the opportunity to further discuss the points raised above with SCAQMD prior to the publication of the final Rule 1168. Please contact me at stephen_wieroniey@americanchemistry.com or (202) 249-6617 with questions or requests for additional information.

Respectfully submitted,



Stephen Wieroniey
Director



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Response 10-1

Staff is not proposing to limit the use of foam sealants but to reduce the VOC content of those products. Staff has not been presented with any information that would indicate a lower VOC product that uses a non-VOC propellant would be less effective at the increasing energy efficiency of the building.

Response 10-2

The definition of a sealant is any material with adhesive properties that is formulated primarily to fill, seal, or waterproof gaps. Insulating foams fill the wall cavity, the gap between two joists or studs; therefore, insulating foams are within the scope of Rule 1168. Based on the August 30th meeting and in response to the commenter's request, staff did create a separate category to distinguish insulating foams from foam sealants and amended the foam sealant definition. It is common for a product category to include many different chemistries, as well as single component and multi-component products. The categories are created to describe the use of the products and the future effective dates for lower VOC limits are to set a limit on when the high-VOC products can be used in our jurisdiction.

Based on a comment letter submitted to the Stationary Source Committee on September 13, 2017 from the American Chemistry Council and subsequent discussions, staff reviewed the definition of "sealant" in the CARB CPR and the OTC Model Rule. Both regulations have the same definition and it includes "weatherproofing". Staff is proposing to align the definition in PAR 1168 with those regulations. As stated previously in this report, staff made an effort to harmonize PAR 1168 definitions with both CARB and the OTC. The definition change also provides further clarification that foam insulation; previously referred to as "insulating foam," fall within the applicability of Rule 1168. The proposed definition change is the following:

SEALANT is any material with adhesive properties that is *formulated primarily* designed to fill, seal, ~~or~~ waterproof, or weatherproof gaps or joints between two surfaces. Sealants include sealant primers and caulks.

This is not a significant change as insulating foams were included in the proposed amendment since the rule process began in 2013. This change will clarify and harmonize the definitions. Per the commenter's request after Stationary Source Committee, staff revised the name for "insulating foams" to "foam insulation" and proposed a 250 g/L VOC limit upon adoption, which will be reduced to 50 g/L based on the results of the technology assessment.

Response 10-3

Staff already proposed a ~~5~~five year implementation timeline for foam sealants to allow time for reformulation. The initial proposed amendment in 2014 included a 20 g/L VOC limit with an effective date of January 1, 2018. The current proposal is a 50 g/L VOC limit effective January 1, 2023 and includes a technology assessment for staff to evaluate the progress of reformulation of foam sealants. Staff developed this limit and timeframe with stakeholder feedback on what is feasible. Staff did amend the proposal to include an early technology assessment, in 2020, to gauge

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progress on reformulation efforts. The first reporting year in 2019 will be critical to understand the status of the affected categories and lower VOC reformulation.

Response 10-4

Staff appreciates the suggestions and made correction to the staff report.

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Comment Letter #11 Summary

The following is a summary of the comment letter received from Bostik, Inc on Augusts 31, 2017.²²

Comment 11-1:

While there are wood flooring adhesives that meet the 20 g/L VOC limits, the performance properties were not considered when proposing this VOC limit.

Comment 11-1:

Not all product chemistries have applicable test methods.

Comment 11-3:

Bostik understands that VOC limits must be lowered to meet air quality goals and suggests the SCAQMD either: lower VOC limits to reflect the sales weighted average, adopt separate VOC limits for water-based and solvent-based adhesives or extend the compliance date until 2023.

Response 11-1

See comment response 3-2.

Response 11-2

Staff is aware that there is currently no accepted test method measuring certain niche products and looks forward to working with the manufacturers to address this deficiency. This is a pre-existing issue and is not the result of any of the proposed changes to Rule 1168.

Response 11-3

Staff appreciates the suggestions; however, if the VOC limits are simply lowered to reflect the sales weighted average or allow higher VOC limits for solvent based chemistries, no actual emission reductions would be achieved. Although sStaff feels there are adequate products available that meet the future proposed VOC limit, staff understands the other concerns included in this comment letter and is ~~so is not~~ proposing to delay the implementation date to January 1, 2023 for several categories.

Comment Letter #12

Sika Corporation

August 29, 2017

Ms. Nicole Silva
Air Quality Specialist
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Comment on Rule 1168 proposed changes

Dear Ms. Silva:

Sika Corporation is submitting comments for the District's review regarding the proposed changes to Rule 1168. Below are our comments.

I. Wood Flooring Adhesive VOC limit:

We believe the proposed limit and effective date for wood flooring adhesives are too demanding for industry to comply with.

Sika does not add what is considered a "solvent" but instead a lower boiling hydrocarbon that contributes to 100% of the VOC level we currently find in these Wood Floor Bonding Products. Our R&D already has made concerted efforts to substitute many other higher boiling liquids to lower the VOC, but when we do so, we significantly decrease the elongation and toughness of the adhesive. We have not been able to find higher boiling hydrocarbons that sufficiently plasticize and cut the viscosity of these formulated systems. Most likely durability in the application will be sacrificed as well with the reduced toughness. We have also experienced the separation issues as noted.

12-1

Sika produces products which meet customers' highest expectations of quality and robust durability through careful technical and application development. While Sika intends to diligently work on providing products that meet these requirements, it will take substantial time and significant effort to find technical solutions which currently are not apparent for these very low VOC limits. Not only does solvent improve adhesion in urethane based wood flooring adhesives, but it also allows the material to be applied easier which benefits both the contractor and the consumer. This is a major consideration for contractors because a high viscous product takes more time and effort to apply than a low viscous product. Even small changes to application process can compound the difficulty of a large scale installation, such as a new apartment building.



Sika Corporation, 201 Polito Avenue, Lyndhurst NJ 07071, USA
Tel: 201 933 8800, Fax: 201 933 9379, www.sikausa.com



12-1
con't

As part of product development, our R&D department has evaluated the performance of similar industry products. It has been noted that low-VOC moisture-curing products are consistently more difficult to apply than products with higher VOC values. Our R&D department has also noted that replacing too much solvent with other low density liquids (e.g. plasticizer) will result in separation, a decreased shelf life and poor product quality. The reduction of VOC values from 100 g/L to 20 g/L is a severe reduction based on a small sample size (10 products). The drastic reduction will require a change in technology which will impact the product performance in a negative way.

Sika respectfully requests that the District keep the VOC limit at 50 g/L as previously discussed in the first working group and that the effective date be January 1st, 2021. We believe the reduction from 100 g/L to 50 g/L would be reasonable to assist in reducing emissions within the District.

II. Architectural Sealant VOC limit:

12-2

We respect the District's reasoning for reducing the Architectural Sealant limit from 250 g/L to 50 g/L outlined in the Preliminary Draft Staff Report. However, we ask the District to consider a gradual limit reduction to allow more time to re-formulate products, especially highly specialized products. Sika proposes an initial reduction to 175 g/L effective on January 1st, 2019, a reduction to 100 g/l effective on January 1, 2021 and then a final reduction to 50 g/L effective on January 1, 2023. This approach should allow Sika, as well as other companies, to allocate the necessary R&D resources to reformulate products while maintaining the product quality.

III. Reporting frequency:

12-3

Sika suggests that reporting be required every five years for the previous two years, as products and technologies do not change significantly from year to year. The data collected every five years would be sufficient for the District to accurately evaluate VOC trends in products and follow reductions in total emissions. Frequent reporting is burdensome and time consuming for businesses to organize the relevant information.

IV. Rule timeline:

12-4

To provide industry with more time to understand and prepare for the proposed rule, we respectfully request that the final public hearing be moved to December.

Sika is also in support of a reporting exemption for low VOC products. We understand that the low VOC product information is necessary for the District to evaluate technological trends. As a compromise we suggest less frequent reporting requirements specifically for low VOC products.

V. **Labeling**

12-5

We understand the addition of a manufacturing date is necessary for the implementation of a sell-through period, which we are in support of. However, our packaging only includes an expiration date, which is consistently one-year after the manufacturing date. This topic was briefly mentioned during the second working group, but we ask for further clarification as to whether an expiration date is sufficient for this requirement.

VI. **Non-Compliant Products Stored in the District**

12-6

We ask for a final clarification on the manufacturer's culpability in reference to the storage of non-compliant products which will be used outside of the District. During the second working group, the District Counsel explained that a letter from the manufacturer noting the product's non-compliance is acceptable in conjunction with the 55-gallon per year exemption reporting from the distributor. Would a written statement from a manufacturer to a customer also relieve liability for storing non-compliant products in warehouses within the District?

Please feel free to contact me at (201) 508-6761 should you have any questions regarding our comments.

Sincerely,



Victor Dino, CHMM
Vice President, EHS

Response 12-1

See response to comment 3-2.

Response 12-2

Staff appreciates the proposal but based on the survey data, believes there is sufficient data to justify the lower VOC limit by 2019. Further, feedback staff receives from stakeholders is usually not to include interim VOC limits because that leads to double the reformulation work. At this stage in the amendment, staff is hesitant to propose such a change.

Response 12-3

See response to comment 1-6.

Response 12-4

Please see the ~~Key Concerns~~ Issues section in this staff report and response to comment 7-2 regarding reporting of low-VOC products.

Staff noted the request to delay the Board Hearing until December. This amendment will be brought to the Stationary Source Committee on September 15, 2017, they will determine if the amendment needs to be delayed.

Response 12-5

Staff proposed a labeling requirement that includes either the date of manufacture or a date code indicating the date code of manufacture. The manufacturer can use the expiration date as the date code provided they file with the Executive Officer of the District an explanation of each date code, as required in subparagraph (f)(1)(C).

Response 12-6

Staff included a proposed exemption for those products that manufacturers or suppliers state, in written notification, are not to be sold in SCAQMD jurisdiction. The manufacturer or supplier is required to maintain this written notification for up to three years, to demonstrate proof of exemption.

Comment #13

Dear Ms. Silva,

Below is further explanation of the comments I had spoken about earlier at the Rule 1168 workshop.

- 13-1
1. Please require VOC content to be included with SDS literature. Because the manufacturers place the VOC content on the label, they feel they no longer need to include the VOC content to their SDS literature. This becomes a problem since most end users would have to physically check each products VOC from the label rather than easily looking up the VOC on the SDS. Also it makes it difficult to provide supporting documentation for the AER or to an inspector if the SDS does not have the VOC listed for the products.
- 13-2
2. Resorcinol is used to make wooden marine boats/vessels. The City of Los Angeles Harbor Department (Port of Los Angeles, AKA Port) uses wooden boats, skiffs, and pontoons (vessels are 16 feet long or smaller) as part of daily maintenance operations. These things are basically made out of marine plywood, nails, and resorcinol. The difference between marine plywood and exterior plywood is that marine plywood is coated in resorcinol. The resorcinol is what keeps the boat held together and water-proof. These pontoons and skiffs are used by Port maintenance staff to do construction or repair under/on docks and other structures in our waterways. The wooden boats are used by our surveyors to check the condition of our structures and obtain samples. Wooden vessels are used in place of other material boats because in case if there is a leak the boat would continue to float and workers would be able to wait above water for help to arrive. Aluminum or fiberglass boats would sink, requiring immediate rescue of the workers, and a dive team to recover the vessel. The Port uses resorcinol to maintain and construct these wooden boats ourselves.

The manufacturer that we used to get the resorcinol (DAP) no longer makes it. DAP's resorcinol VOC was 171 g/L (on label but not listed on SDS which points back to my first concern). We still have some DAP resorcinol, but once we run out we will have to purchase a different manufacturer brand. Their new product, Weldwood Plastic Resin Glue, does not advertise that is for marine use, see attached product data sheet. So if we use this product and it does not hold up to a marine environment, DAP will just say that it was not meant for a marine environment even though it is the replacement for their resorcinol product line.

The only other resorcinol my Boat Carpentry staff can find is Aerodux Resorcinol Resin Kit, see attached SDS. The VOC listed is the Material VOC rather than Coating VOC (without water & exempt compounds) as 330.5 g/L which is above the 250 g/L limit that SCAQMD is stating resorcinol fell under. I do not know if their coating VOC would meet the 250 g/L limit, but since the value is normally higher without water and exempt compounds there is low probability it would. Resorcinol is only used for wooden products so the manufacturer probably classifies it as a marine deck sealant which has a coating VOC limit of 760 g/L. If there are other manufacturers that SCAQMD might know about that has compliant resorcinol we will gladly use it.

As I stated above, resorcinol is a key product for maintaining our wooden boats, which are used in daily maintenance of our infrastructure. We use it only for repair or to build a replacement vessel, which is maybe once a year at most. Actual amount used to rebuild a boat would depend on the size but generally we stay

under 55 gallons, so I do not know if that means we can qualify for the 55 gallon exemption especially since we use other products that contain VOCs for our other operations.

3. Another concern is the use of adhesives on the marine vessels. We use a lacquer based DAP Original Contact Cement (pint/quart size) to repair things on our marine vessels and other items exposed to a marine environment. This product's VOC is 459 g/L, see attached SDS. They do not market it as a marine adhesive which is what we consider it as, but as a multi-purpose adhesive. See link to their website.

<http://www.dap.com/dap-products-ph/weldwood-original-contact-cement/>

13-3

This makes it difficult as an end user, since it meets VOC limits for top & trim adhesive in the new rule. However, since the proposed rule requires the product to meet the VOC limit that is the lowest limit for what the product is marketed, then the VOC limit for this product would fall under Multi-Purpose Construction Adhesive which is only 70 g/L making this particular product not compliant. They make a water-based product that meets this requirement, but the water-based version does not last in a marine environment. All water-based products in a marine environment start to lose their adhesion from all the moisture in the surrounding environment. This is especially true at the Port since our equipment is in a marine environment 24 hours a day, 7 days a week. So if boat carpentry staff glues something using the water-based product, within weeks/months it starts to come undone. Our staff has started to have real concerns about vessels falling apart in the water because we are having to use compliant products that do not meet our needs. We lose time, money, and productivity because we have to redo the work since it is a safety hazard not to complete the repairs. Also since they make a compliant water-based product, we have concerns that DAP will then stop making the lacquer-based version and the Port would only have the water-based product option that does not work in our environment.

By having the lowest limit be the default, it makes it difficult for us to find products for marine use since manufacturers are marketing the products we use for multi-purpose or general use now, which defaults to lower VOC limits than what a marine product can have. The rule should include an exemption to the lowest marketed VOC limit category for end users using products for marine purposes as long as they meet the already existing marine adhesive/sealant categories or SCAQMD should add a specific marine adhesive only category so manufacturers can market a marine only adhesive.

Our boat carpentry staff have not been able to find a similar product that has worked in the marine environment. If SCAQMD has a list of any products that they have found that are compliant and serve the same function, we will gladly test them to see if they can be a suitable replacement for the DAP Original Contact Cement.

If you have any other questions or more explanation, please feel free to contact me. I've cc'ed our Boat Carpentry supervisor, John Radovcich, who would be able to go into more detail of how these products are used and why water-based products are not meeting our needs.

Thank You,

Amber Coluso
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Response 13-1

The SCAQMD does not have the authority over what is included on SDS.

Response 13-2

The SCAQMD is required to lower to VOC limit for the Waterproof Resorcinol Glue due to RACM/BACM requirements. The 55-gallon per year exemption is an option for low-use applications if no other compliant products are available.

Response 13-3

The proposed VOC limit for Top and Trim Adsesives limit, which applies to automotive and marine use, will increase to 540 g/L upon rule adoption. Staff is proposing to lower the limit back to 250 g/L by 2023. The VOC limit reduction includes a technology assessment. At the time of the assessment, staff will specifically inquire about the adhesives available for marine use and carve out a higher limit or exemption if needed.

Comment Letter #14



The Dow Chemical Company
Midland, MI 48674
U.S.A.

August 9, 2017

Heather Farr
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Comments on the Proposed Amendment to Rule 1168

Dear Ms. Farr,

The Dow Chemical Company appreciates the opportunity to provide input on the proposed changes to Rule 1168 to South Coast Air Quality Management District (SCAQMD).

The Dow Chemical Company is driving innovations that extract value from material, polymer, chemical and biological science to help address many of the world's most challenging problems such as the need for clean water, clean energy generation and conservation, and increasing agricultural productivity. Dow's integrated, market-driven, industry-leading portfolio of specialty chemical, advanced materials, agrosiences and plastics businesses delivers a broad range of technology-based products and solutions to customers in approximately 180 countries and in high-growth sectors such as packaging, electronics, water, coatings and agriculture. In 2016, Dow had annual sales of over \$48 billion and employed approximately 49,000 people worldwide. The Company's more than 6,000 product families are manufactured at 179 sites in 35 countries across the globe.

Dow respectfully submits the following written comments concerning the Proposed Amended Rule 1168. In addition to these comments, Dow completely agrees with and supports the comments sent to SCAQMD by both the American Coatings Association and the Consumer Specialty Products Association.

Overall, we have some concerns with the proposed amendment, particularly with respect to its potential impact on the Insulating Foam Sealant market, and the proposed VOC limit for these products that is not technically or economically feasible with today's technologies. These concerns are further articulated below.

1. The phrase "weigh less than one pound and consist of less than 16 fluid ounces" in Section (a) "Purpose and Applicability" should be revised to read "weigh one pound or less and consist 16 fluid ounces or less".

14-1

Insulating Foam Sealants for consumers are commonly sold in 16 oz. cans by retailers. If the rule is left as currently proposed (less than one pound and less than 16 fl. oz.), SCAQMD will be interfering in the sales of only some retailers thus interfering in free market practices. This change is needed to align with paragraph (i)(11) and with the California Air Resources Board's (CARB) Consumer Product regulation.

2. Insulating Foam Sealants provide significant benefits by reducing greenhouse gas emissions and saving energy. Additional regulation of these products could have significant adverse impact.

14-2

Both CARB and the US Ozone Transport Commission recognize the importance of Insulating Foam Sealants in reducing greenhouse gas emissions, and they continue to exempt these products from severe VOC limits. SCAQMD should continue to exempt these products also.

Dow is a major producer of highly efficient building insulation and air sealing products, such as one component polyurethane Insulating Foam Sealant. As a leader in energy efficient residential and commercial construction, California relies upon these products not only to reduce energy costs for California consumers and business owners, but also to help California reach its aggressive reduction goals in greenhouse gas (GHG) emissions from the buildings sector.

Insulating Foam Sealant products are valuable building products and can help California meet other air quality and climate-focused goals. With respect to buildings, the state has set ambitious goals for improving energy efficiency. The California Energy Commission is working toward the goal of zero net energy for all new residential construction by 2020.¹ Governor Brown recently signed legislation aimed at increasing energy efficiency for existing buildings in the state.²

The typical U.S. home has gaps and cracks that stretch a half-mile long.³ These gaps and cracks reduce home energy efficiency by allowing conditioned air – which citizens have paid to heat and cool – to escape as unwanted external air sneaks in. Proper insulating and air sealing, which often includes application of Insulating Foam Sealants, increases home energy efficiency and can help lower home energy bills by up to 30%.⁴

¹ California's New Residential Zero Net Energy Action Plan. Available at: http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/eespires_zne_action+plan.htm.

² Clean Energy and Pollution Reduction Action of 2015 (SB-350).

³ energystar.gov

⁴ Residential Energy Services Network (RESNET) Savings will vary.

A SMALL COST TO SAVE A LOT



⁵http://energy.gov/sites/prod/files/2014/09/r18/61628_BK_EERE-EnergySavers_w150.pdf

SCAQMD should carefully select its VOC emission reduction strategies to ensure that actions do not have the unintended consequences of deselecting energy efficiency products like Insulating Foam Sealants and other spray polyurethane foams.

3. The proposed 2023 “Foam Sealant” VOC limit of 50 g/L is not practical and seems to be an arbitrarily selected target.

There is no readily available/drop-in alternative to the currently used hydrocarbons in one component Insulating Foam Sealants, which typically have VOCs less than 200 g/L. It is not clear how the target VOC limit of 50 g/L was selected.

14-3

One proven alternative, HFC-134a, cannot be used today due to U.S. EPA SNAP regulations on foam blowing agents. Currently available HFOs have been suggested, however they do not meet product performance requirements as they do not have the appropriate vapor pressures. Any blowing agent used in the Insulating Foam Sealants aerosol cans must not only help the product create the insulating foam by creating closed cells in the foam, it must also behave as the propellant for getting the entire product out of the can to avoid product waste. The HFOs fall short on meeting these requirements.

The proposed rule states that a “technology assessment will be conducted by January 1, 2022 and the Executive Officer shall report on the results of the technology assessment to the Stationary Source Committee prior to the January 1, 2023 implementation date”. Without the results of the technology assessment showing that a 50 g/L VOC is feasible, the selection of this limit seems arbitrary. We suggest that the 50 g/L VOC limit be removed from the proposed rule. If the 2022 technology assessment finds that a lower

VOC limit is warranted, then the lowered VOC limit can be implemented in a future rule amendment. Dow respectfully requests the opportunity to participate in any future technology assessment that impacts Insulating Foam Sealants.

4. SCAQMD is likely confusing two different products, two component and one component polyurethane foams.

The current definition of 'Foam Sealant' covers both one component and two component systems. These two VERY different products can NOT be addressed under the same VOC restriction. They are completely different technologies.

14-4

- a. Two-component spray polyurethane foam (2K-SPF) products include both insulations and insulating foam sealants and are sold in containers that are typically larger than one pound (i.e. tanks and drums). Dow's 2K-SPF products are very low VOC, at or near zero, as they have special required application tools and must use non-flammable blowing agents.
- b. One component polyurethane "Insulating Foam Sealants" are sold by Dow typically in 12, 16, and ~25 oz. Aerosol Cans; these products use a blend of hydrocarbons for the propellant and foaming agent.

Dow recommends that SCAQMD take time to meet with industry to better define the "Foam Sealant" category, and again highly encourages SCAQMD to exclude Insulating Foam Sealants as done by CARB for the reasons previously noted.

14-5

5. Dow appreciates the sell-through provision of Section (c)(3) and agrees with it as written.

6. The reporting requirements found in Section (f)(2)(B) regarding reporting is a serious concern to Dow.

This requirement creates a significant burden for industry and creates concerns over the handling of confidential business information. The request for such data generates a large number of questions:

14-6

- How will the sales information collected by the District be handled and stored?
- What is the purpose of the information collection?
- What will be done with the data?
- How will SCAQMD guarantee the confidentiality of the sales data?

Additionally under (viii) it notes that "the annual quantity of each product including products sold through big box retailers with distribution centers located within or outside the District";

- Does this mean that SCAQMD expects Dow to provide our entire national sales data to the "Big Box Stores"?
- Why does SCAQMD need such national data?
- Since SCAQMD is proposing to require the "Big Box Stores" to report on their sales of the products within the district, why would the manufacturer be expected to provide national sales data or any data at all, that is sold through those stores?
- How will SCAQMD ensure that ALL data provided to them by retailers and facilities is kept as business confidential even if the retailer or facility fails to properly mark the data as such?
- Also, what is the guarantee of confidentiality through the proposed electronic submission of data by the Big Box Retailers?

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This type of confidential information could negatively impact the manufactures if not properly handled. Lastly, this reporting is over burdensome.

Thank you for your consideration of these concerns. If you have any questions about the concerns raised in this letter please contact me by phone at 989.496.5398 or by email at Lee.French@DowCorning.com.

Respectfully,



Lee French
Regulatory SME
The Dow Chemical Company

Response 14-1

Thank you for the feedback, staff made this change in the rule.

Response 14-2

Please see response to comment 10-1.

Response 14-3

Please see response to comment 3-3 and 10-3.

Response 14-4

Please see response to comment 10-2.

Response 14-5

Staff appreciates the support.

Response 14-6

Please see the ~~Key issues~~ Concerns section in this staff report and response to comments 1-6, 3-6, 6-7, 6-14, and 8-4.

~~Subject to confidentiality, Information submitted to the Executive Officer may be designated as confidential under the provisions of the California Public Records Act (Govt. Code § 6250-6276.48) information submitted to the Executive Officer may be designated as confidential.~~ The designation must be clearly indicated on the reporting form, identifying exactly which information is deemed confidential. SCAQMD staff will use a reporting spreadsheet, similar to what was used

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for the survey, with an area to indicate the information is confidential; therefore, manufacturers have the ability to indicate that their data is confidential before they electronically submit their QER. The SCAQMD staff believes that the District's Guidelines for Implementing the California Public Records Act, which were adopted by the Governing Board on May 6, 2005 and amended on July 5, 2013 specifically with reference to trade secrets, adequately protect confidential information from misappropriation. The SCAQMD will request a justification from the entity claiming confidential information. The SCAQMD shall evaluate the justification, any other information at its disposal, and determine if the justification supports the claim that the material is in fact trade secret under Gov. Code Sec. 6254 and Sec. 6254.7. If the SCAQMD determines that the claim of confidentiality is not meritorious or is inadequately supported by the evidence, the SCAQMD shall promptly notify, by certified mail and email, the entity who claimed confidential status that the justification is inadequate and that the information will be released after 21 calendar days from the date of such notice unless the person claiming trade secret brings a legal action to preclude such release.- The SCAQMD considers sales volume data confidential and is cautious to protect that data.

The SCAQMD has ~~strategies~~ procedures in place for protecting the confidentiality of information claimed as confidential. The SCAQMD has been handling confidential and trade secret information for many years without incident. The SCAQMD's computer systems are protected from outside attackers, and access by internal staff is controlled and audited. A security assessment was recently conducted which found no vulnerabilities from outside attackers. Controls for internal access include strong passwords, domain account authentication, limiting access to authorized users with proper role, antivirus software with updates, security software updates, and physical security.

COMPARATIVE ANALYSIS

Health and Safety Code Section 40727.2 requires a written analysis comparing the proposed rule with existing federal and SCAQMD regulations. There are no other existing or proposed SCAQMD rules that directly apply to the same source type (adhesive and sealant applications). The federal government has suggested standards in the form of a Control Techniques Guideline for Miscellaneous Industrial Adhesives, but has no regulatory requirements. As discussed in this report, the CARB CPR regulates certain consumer product adhesives and sealants throughout the state of California and the OTC has a Model Rule that applies to adhesives and sealants.

	PAR 1168	CARB Consumer Products Regulation	U.S. EPA Control Techniques Guideline for Miscellaneous Industrial Adhesives	Ozone Transport Commission Model Rule for Adhesives and Sealants Consumer Products
Applicability	All use of adhesives, adhesive primers, sealants, or sealant primers excluding consumer and institutional use where the units of product, less packaging, weigh one pound or less and consist of less than 16 fluid ounces, and where there is an applicable VOC limit in the California Air Resources Board (CARB) Consumer Products Regulation.	Adhesives and sealants where the units of product, less packaging, weigh one pound or less and consist of 16 fluid ounces or less, that are sold for consumer and institutional use.	Voluntary guidelines to states to develop regulation to address adhesives used for industrial operations.	Sale and manufacture of consumer adhesives, adhesive primers, sealants, and sealant primers; and use restrictions that apply primarily to commercial/industrial applications.
Requirements	<ul style="list-style-type: none"> • VOC limits for adhesives used in architectural applications, industrial operations, and substrate specific applications. VOC limits for sealants used in architectural applications, roadway, and other applications. VOC limits for adhesive and sealant primers • Most restrictive clause for products subject to multiple VOC limits 	<ul style="list-style-type: none"> • VOC limits for adhesives and sealants sold as consumer products for personal or institutional use • Three year sell through for products on shelf prior to effective date of rule • Most restrictive clause for products subject to multiple VOC limits 	<ul style="list-style-type: none"> • VOC limits for adhesives, sealants and primers used in industrial operations • Minimum transfer efficiency requirements • Minimum air pollution capture and control efficiency of 85% • Trash and debris containing VOC must be in closed containers • Containers used for mixing shall be closed except when in use 	<ul style="list-style-type: none"> • VOC limits for adhesives used in architectural applications, industrial operations, and substrate specific applications. VOC limits for sealants used in architectural applications, roadway, and other applications. VOC limits for adhesive and sealant primers • Limit on VOC content of solvents used for cleaning, surface preparation or stripping

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	PAR 1168	CARB Consumer Products Regulation	U.S. EPA Control Techniques Guideline for Miscellaneous Industrial Adhesives	Ozone Transport Commission Model Rule for Adhesives and Sealants <u>Consumer Products</u>
	<ul style="list-style-type: none"> • Three year sell through for products on shelf prior to effective date of rule • Trash and debris containing VOC must be in closed containers • Minimum transfer efficiency requirements • Minimum air pollution capture efficiency of 90%; minimum air pollution reduction efficiency of 95% • Alternative Emission Control Plan • Storage restrictions for non-compliant products • Containers used for mixing shall be closed except when in use 		<ul style="list-style-type: none"> • Closed containers for cleaning solvent storage 	<ul style="list-style-type: none"> • VOC content limit for solvents used to clean application equipment and requirements to clean in enclosed cleaning system • Minimum air pollution capture and control efficiency of 85% • Trash and debris containing VOC must be in closed containers
Recordkeeping	Daily recordkeeping	None	None	Monthly recordkeeping
Administrative	<ul style="list-style-type: none"> • Container labeling of VOC content and date of manufacture • Sales reporting from manufacturers, private labelers, big box retailers, and distribution centers • Annual reporting of sales utilizing 55 gallon per year exemption 	<ul style="list-style-type: none"> • Container labeling of VOC content and date of manufacture • Sales reporting from manufacturers 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Container labeling of VOC content
Prohibitions	<ul style="list-style-type: none"> • Prohibition of sale of products that do not meet VOC content limit 	<ul style="list-style-type: none"> • Prohibition of sale of products that do not meet VOC content limit 	<ul style="list-style-type: none"> • No atomization of cleaning solvent 	<ul style="list-style-type: none"> • Prohibition of sale of products that do not meet VOC content limit

	PAR 1168	CARB Consumer Products Regulation	U.S. EPA Control Techniques Guideline for Miscellaneous Industrial Adhesives	Ozone Transport Commission Model Rule for Adhesives and Sealants Consumer Products
	<ul style="list-style-type: none"> • Prohibition of sale of products containing certain chlorinated compounds • Prohibition of sale of products containing certain exempt compounds 	<ul style="list-style-type: none"> • Prohibition of sale of products containing certain chlorinated compounds • Prohibition of sales of adhesives with any chemical compound that has a Global Warming Potential of 150 or greater 		
Exemptions	<ul style="list-style-type: none"> • Exemption for adhesives and sealants subject to other source specific rules • Record keeping exemption (end-user) for products that contain less than 20 g/L VOC content • Exemption for containers less than one ounce • Rule does not apply to use in research and development • Exemption for products in certain categories when used in quantities of 55 gallons per year or less • Exemption for parade floats • Rule does not apply to consumer products used for personal or institutional use if regulated by CARB Consumer Product Regulation • Exemption for certain miscellaneous uses 	<ul style="list-style-type: none"> • Exemption for solvents defined as low vapor pressure • Exemption for containers less than one ounce 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Rule does not apply to use in research and development • Rule does not apply to consumer products used for personal or institutional use if regulated by another agency • Exemption for products that contain less than 20 g/L VOC content • Exemption for contact adhesives sold in volumes of one gallon or less • Exemption for certain miscellaneous uses • Rule does not apply to uses where annual emissions are less than 200 pounds per year • Exemption for products when used in quantities of 55 gallons per year or less

DRAFT FINDINGS UNDER THE CALIFORNIA HEALTH AND SAFETY CODE

Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the SCAQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the hearing. The draft findings are as follows:

Necessity – State and federal health-based ambient air quality standards for ozone are regularly and significantly exceeded in the SCAQMD. The reduction of VOC from Proposed Amended Rule 1168 is part of a comprehensive strategy in the 2016 AQMP and needed to meet federal and state air quality standards.

Authority - The SCAQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702 and 41508.

Clarity - The SCAQMD Governing Board has determined that Proposed Amended Rule 1168 – Adhesive and Sealant Applications, is written and displayed so that the meaning can be easily understood by persons directly affected by them.

Consistency - The SCAQMD Governing Board has determined that Proposed Amended Rule 1168 – Adhesive and Sealant Applications, is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, federal or state regulations.

Non-Duplication - The SCAQMD Governing Board has determined that Proposed Amended Rule 1168 – Adhesive and Sealant Applications, does not impose the same requirement as any existing state or federal regulation, and the proposed amendments are necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD.

Reference - In adopting this regulation, the SCAQMD Governing Board references the following statutes which the SCAQMD hereby implements, interprets or makes specific: California Health and Safety Code sections 40001, 40440, and 40702.

REFERENCES

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10. SCAQMD. *Staff Report Proposed Amended Rule 1168 – Adhesive and Sealant Applications* (2004, December).
11. SCAQMD. *Method 313 Determination of Volatile Organic Compounds (VOC) by Gas Chromatography/Mass Spectrometry (GC/MS)* from http://www.aqmd.gov/home/regulations/compliance/vocs/working-group#&ImageGallery_C003_Co100=1
12. U.S. Environmental Protection Agency. *Appendix A to Subpart PPPP of Part 63 – Determination of Weight Volatile Matter Content and Weight Solids Content of Reactive Adhesives* (2004, July).

ATTACHMENT H

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**Final Environmental Assessment for Proposed Amended Rule 1168 –
Adhesive and Sealant Applications**

September 2017

**SCAQMD No. 08162017DT
State Clearinghouse No: 2017081031**

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GOVERNING BOARD**

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule (PAR) 1168 – Adhesive and Sealant Applications. A Draft EA was released for a 30-day public review and comment period from August 16, 2017 to September 15, 2017. Analysis of PAR 1168 in the Draft EA did not result in the identification of any environmental topic areas that would be significantly adversely affected. Two comment letters were received from the public regarding the analysis in the Draft EA. The comment letters received relative to the Draft EA and responses to individual comments are included in Appendix B of this document.

In addition, subsequent to release of the Draft EA, modifications were made to PAR 1168 and some of the revisions were made in response to verbal and written comments received during the rule development process. To facilitate identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~strikethrough~~. To avoid confusion, minor formatting changes are not shown in underline or strikethrough mode.

Staff has reviewed the modifications to PAR 1168 and concluded that none of the revisions constitute: 1) significant new information; 2) a substantial increase in the severity of an environmental impact; or, 3) provide new information of substantial importance relative to the draft document. In addition, revisions to the proposed project in response to verbal or written comments would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the document pursuant to CEQA Guidelines Section 15073.5 and 15088.5. Therefore, this document now constitutes the Final EA for PAR 1168.

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CHAPTER 1

PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

Project Background

Project Description

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD or District) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the District². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. The AQMP is a regional blueprint for how the SCAQMD will achieve air quality standards and healthful air and the 2016 AQMP⁴ contains multiple goals promoting reductions of criteria air pollutants, greenhouse gases, and toxics. In particular, the 2016 AQMP includes control measure CTS-01: Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants, which identifies Rule 1168 – Adhesive and Sealant Applications, a rule that regulates volatile organic compounds (VOC), as having the potential to achieve additional VOC emission reductions. In addition, the 2016 AQMP also includes control measure MCS-01: Application of All Feasible Measures Assessment, which seeks to achieve emission reductions from all pollutants, including VOCs. Proposed amended Rule (PAR) 1168 has been developed to partially implement CTS-01 and MCS-01.

Rule 1168 applies to anyone who uses, sells, stores, supplies, offers for sale or manufactures for sale any adhesives and sealants. Adhesives and sealants are primarily used for architectural applications and the majority of emissions come from a broad range of small volume users in manufacturing, commercial, and consumer applications. Approximately 3,000 regulated products were reported in a survey conducted in 2013. Staff believes this may be an underrepresentation of the total number of affected regulated products based on stakeholder input and products found by SCAQMD staff the field.

The following industry sectors, as classified by the North American Industry Classification System (NAICS) code, make extensive use of products subject to Rule 1168:

- Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing (NAICS 333415)
- All Other Rubber Product Manufacturing (NAICS 326299)
- Commercial and Institutional Building Construction (NAICS 236220)
- Custom Architectural Woodwork and Millwork Manufacturing (NAICS 337212)
- Drywall and Insulation Contractors (NAICS 238310)
- Flooring Contractors (NAICS 238330)
- Footwear Manufacturing (NAICS 316210)
- Glass and Glazing Contractors (NAICS 238150)
- Hardwood Veneer and Plywood Manufacturing (NAICS 321211)
- Household Furniture (except Wood and Metal) Manufacturing (NAICS 337125)
- Industrial Building Construction (NAICS 236210)
- Manufactured Home (Mobile Home) Manufacturing (NAICS 321991)

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch. 324 (codified at Health and Safety Code Section 40400-40540).

² Health and Safety Code Section 40460(a).

³ Health and Safety Code Section 40440(a).

⁴ SCAQMD, 2016 Air Quality Management Plan. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf>

- Motor Vehicle Seating and Interior Trim Manufacturing (NAICS 336360)
- New Multifamily Housing Construction (except For-Sale Builders) (NAICS 236116)
- New Single-Family Housing Construction (except For-Sale Builders) (NAICS 236115)
- Office Furniture (except Wood) Manufacturing (NAICS 337214)
- Oil and Gas Pipeline and Related Structures Construction (NAICS 237120)
- Other Millwork (including Flooring) (NAICS 321918)
- Plumbing, Heating, and Air-Conditioning Contractors (NAICS 238220)
- Polystyrene Foam Product Manufacturing (NAICS 326140)
- Residential Remodelers (NAICS 236118)
- Roofing Contractors (NAICS 238160)
- Rubber Product Manufacturing for Mechanical Use (NAICS 326291)
- Showcase, Partition, Shelving, and Locker Manufacturing (NAICS 337215)
- Siding Contractors (NAICS 238170)
- Surgical Appliance and Supplies Manufacturing (NAICS 339113)
- Tile and Terrazzo Contractors (NAICS 238340)
- Tire Retreading (NAICS 326212)
- Urethane and Other Foam Product (except Polystyrene) Manufacturing (NAICS 326150)
- Water and Sewer Line and Related Structures Construction (NAICS 237110)
- Wood Container and Pallet Manufacturing (NAICS 321920)
- Wood Kitchen Cabinet and Countertop Manufacturing (NAICS 337110)
- Wood Window and Door Manufacturing (NAICS 321911)

The industries that supply regulated products to facilities are covered by Asphalt Shingle and Coating Materials Manufacturing (NAICS 324122 and 325520) and Adhesive Manufacturing (NAICS 325520).

PAR 1168 would further reduce emissions of volatile organic compounds (VOCs), toxic air contaminants, and stratospheric ozone-depleting compounds from adhesives, adhesive primers, sealants, and sealant primers. PAR 1168 will clarify applicability; revise, delete, and add definitions; lower VOC limits for certain categories and allow for a three-year sell-through and use-through; add new product categories with corresponding VOC content limits; require products marketed for use under varying categories to be subject to the lowest VOC limit; prohibit the storage of non-compliant products, unless for shipment outside of the SCAQMD; add test methods for analyzing VOC content; add labeling requirements; include reporting requirements for manufacturers, private labelers, Big Box retailers, distribution centers, and facilities that use a 55 gallon per year exemption; prohibit the use of Rule 102 Group II exempt solvents, except volatile methyl siloxanes; include a technology assessment for certain product categories; remove, ~~modify~~restrict, or add exemptions; include streamlined recordkeeping options for products with a VOC content of less than 20 grams per liter; and allow products with a viscosity of 200 centipoise or greater to be exempted from transfer efficiency requirements.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), California Public Resources Code Section 21000 *et seq.*, requires environmental impacts of proposed projects to be evaluated and feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects to be identified and implemented. The lead agency is the “public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment”

(Public Resources Code Section 21067). Since PAR 1168 is a SCAQMD-proposed amended rule, the SCAQMD has the primary responsibility for supervising or approving the entire project as a whole and is the most appropriate public agency to act as lead agency (CEQA Guidelines⁵ Section 15051(b)).

CEQA requires that all potential adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented if feasible. The purpose of the CEQA process is to inform the lead agency, responsible agencies, decision makers, and the general public of potential adverse environmental impacts that could result from implementing PAR 1168 (the proposed project) and to identify feasible mitigation measures or alternatives, when an impact is significant.

Public Resources Code Section 21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of Resources Agency on March 1, 1989, and has been adopted as SCAQMD Rule 110 – Rule Adoption Procedures to Assure Protection and Enhancement of the Environment.

PAR 1168 has been crafted to further reduce emissions of VOCs, toxic air contaminants, and stratospheric ozone-depleting compounds from adhesives, adhesive primers, sealants, and sealant primers. Because PAR 1168 requires discretionary approval by a public agency, it is a “project” as defined by CEQA⁶. The proposed project will reduce emissions of VOCs, toxic air contaminants, and stratospheric ozone-depleting compounds, and will provide an overall environmental benefit to air quality. However, SCAQMD's review of the proposed project also shows that implementation of PAR 1168 may ~~also~~ create secondary adverse effects on the environment either directly or indirectly because to the following areas: 1) the air quality and GHG impacts ~~were determined to be less than the significance thresholds as analyzed in Section III – Air Quality and Greenhouse Gases~~; 2) the hazards and hazardous materials impacts ~~were determined to be less than significant as analyzed in Section VIII – Hazards and Hazardous Materials~~; 3) the increased water usage and wastewater ~~was determined to be less than significant as analyzed in Section IX – Hydrology and Water Quality~~; 4) public services such as fire protection and police protection ~~were determined to be less than the significance thresholds as analyzed in Section XIV – Public Services~~. SCAQMD's review of these secondary adverse effects shows that PAR 1168 would not have a significant adverse effect on the environment. Thus, the type of CEQA document appropriate for the proposed project is an Environmental Assessment (EA). The EA is a substitute CEQA document, prepared in lieu of a Negative Declaration (CEQA Guidelines Section 15252), pursuant to the SCAQMD's Certified Regulatory Program (CEQA Guidelines Section 15251(l); SCAQMD Rule 110). The EA is also a public disclosure document intended to: 1) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental impacts of the proposed project; and, 2) be used as a tool by decision makers to facilitate decision making on the proposed project.

Thus, the SCAQMD, as lead agency for the proposed project, prepared a Draft EA pursuant to its Certified Regulatory Program. The Draft EA includes a project description in Chapter 1 and an Environmental Checklist in Chapter 2. The Environmental Checklist provides a standard tool to identify and evaluate a project's adverse environmental impacts and the analysis concluded that

⁵ The CEQA Guidelines are codified at Title 14 California Code of Regulations Section 15000 *et seq.*

⁶ CEQA Guidelines Section 15378

no significant adverse impacts would be expected to occur if PAR 1168 is implemented. Because PAR 1168 will have no statewide, regional or areawide significance, no CEQA scoping meeting is required to be held for the proposed project pursuant to Public Resources Code Section 21083.9(a)(2). Further, pursuant to CEQA Guidelines Section 15252, since no significant adverse impacts were identified, no alternatives or mitigation measures are required.

The Draft EA ~~was being~~ released for a 30-day public review and comment period from August 16, 2017 to September 15, 2017 and two comment letters were received. All comments received during the public comment period on the analysis presented in the Draft EA ~~will have been~~ responded to and are included in an Appendix B to this Final EA.

Subsequent to release of the Draft EA for public review and comment, minor modifications were made to PAR 1168 and some of the revisions were made in response to verbal and written comments received during the rule development process. The modifications include: 1) minor changes made for rule clarification, including definition additions and revisions; 2) the addition of technology assessments for various product categories; 3) the reorganization of various provisions and sections of the rule; 4) extended effective dates for proposed VOC limit reductions; and 5) the proposal of more moderate VOC limit reductions for several categories. Staff reviewed the modifications to PAR 1168 and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor provide new information of substantial importance relative to the draft document. The Draft EA concluded no significant adverse environmental impacts and the revisions to PAR 1168 in response to verbal or written comments would not create new, avoidable significant effects. As a result, these minor revisions do not require recirculation of the EA pursuant to CEQA Guidelines Section 15073.5 and 15088.5.

Prior to making a decision on the adoption of PAR 1168, the SCAQMD Governing Board must review and certify the Final EA as providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting PAR 1168.

PROJECT LOCATION

Adhesives and sealants are used in a wide range of industries and are primarily used for architectural applications. Rule 1168 currently applies to all commercial and industrial sales and applications of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless otherwise exempted by the rule. ~~any person who sells, stores, supplies, offers for sale or manufacturers for sale any regulated products within SCAQMD's jurisdiction.~~ PAR 1168 will clarify that the rule applies applicability to any person who uses, sells, stores, supplies, offers for sale or manufactures for sale any regulated products also include all uses of regulated products within SCAQMD's jurisdiction, unless otherwise exempted by the rule. ~~excluding consumer and institutional use where the units of product, less packaging, weigh less than one pound and consist of less than 16 fluid ounces, and where there is an applicable VOC limit in the California Air Resources Board (CARB) Consumer Products Regulation (CPR).~~ The majority of emissions comes from these uses come from area sources and consumer uses that are occurring throughout the SCAQMD's jurisdiction. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of SCAQMD's jurisdiction, is bounded

by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. A federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (see Figure 1-1).

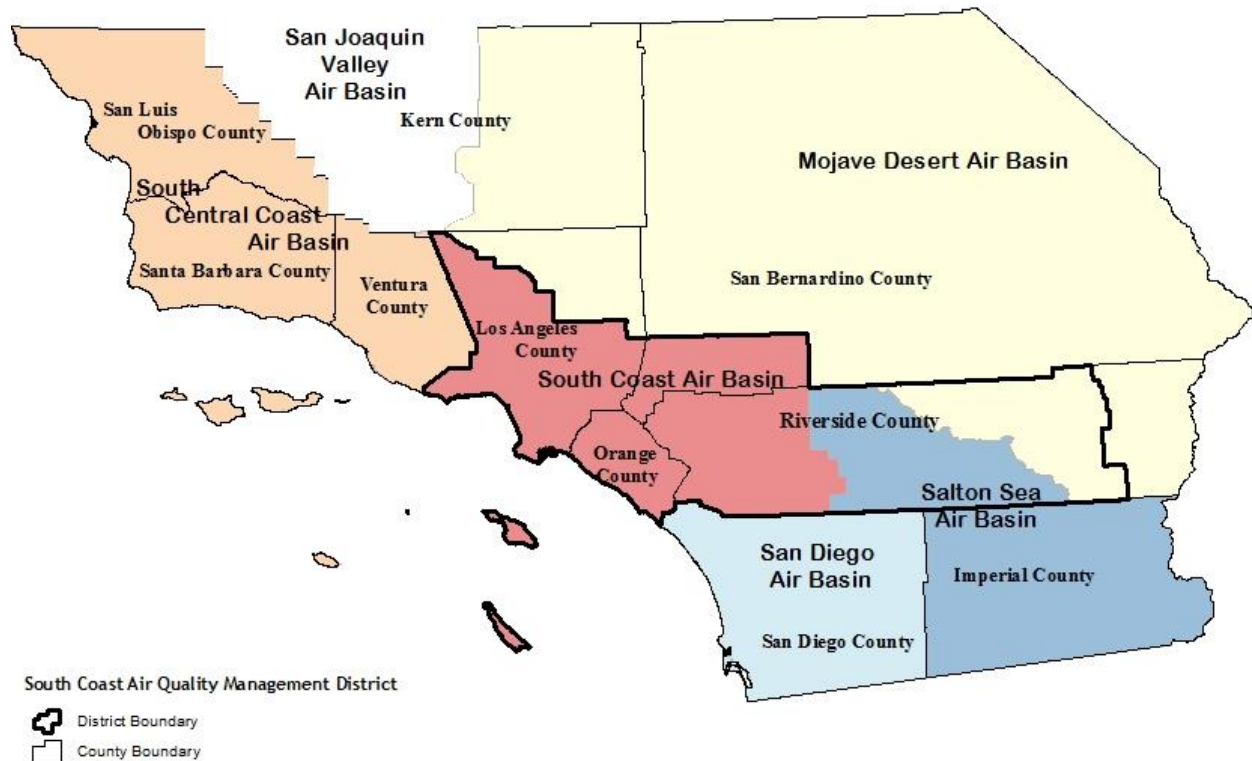


Figure 1-1
Southern California Air Basins

PROJECT BACKGROUND

Rule 1168 was first adopted in April 1989 to control VOC emissions from adhesive applications. Rule 1168 has been amended 13 times with the last amendment occurring in January 2005. An adhesive is a substance that is used to bond one surface to another by attachment, excluding the application of subsequent coatings. It is a substance that is sticky in nature and can span a broad range of chemistries from products produced from plants and animals to reactive chemistries. They can vary from contact type adhesives to pressure sensitive adhesives. In 1997, the categories of sealants and sealant primers were incorporated into Rule 1168. Although sealants have are similar properties to adhesives, their primary purpose is not to bond one surface to another, but to ~~except that they must also~~ fill, seal or waterproof gaps or joints between two surfaces. Over the past six amendments, dating back to 1998, Rule 1168 was revised to also include the following

categories of adhesive products: acrylonitrile-butadiene-styrene (ABS), polyvinyl chloride (PVC), chlorinated polyvinyl chloride (CPVC), and Top and Trim Adhesives. Rule 1168 currently limits the VOC content for 41 product categories and is applicable to adhesives and sealants used during manufacturing and to consumer products that are not regulated by CARB in the CPR⁷. The CARB CPR is a statewide regulation applicable to any person who uses, sells, supplies, offers for sale, or manufactures consumer products for us in the state of California and implemented by CARB. A regulated product under Rule 1168 is an adhesive, adhesive primer, sealant, or sealant primer. The majority of emissions come from small volume users (area sources) including manufacturing, commercial, and consumer uses.

Initial development of the current revision to PAR 1168 began in 2013 and continued into 2014. During that timeframe, staff conducted eight working group meetings, drafted six versions of proposed amended rule language, released a preliminary draft staff report, and developed a voluntary survey of regulated product sales in the SCAQMD's jurisdiction. The survey was intended to improve the emissions inventory and assess product market share. At the time of initial development of PAR 1168, a key component in the proposal included dimethyl carbonate (DMC) and tertiary-butyl acetate (tBAc) in the list of compounds that would be exempt from the definition of a VOC. However, due to toxicity concerns and the uncertainty of the on-site exposure modeling methodologies, the rule amendment process was put on hold and SCAQMD staff was directed to research the issues associated with DMC and tBAc and to follow up with a report to the Governing Board. SCAQMD staff subsequently prepared the "tBAc Assessment White Paper"⁸ and the Governing Board decided to use a precautionary approach with regard to tBAc and DMC, such that a VOC exemption for DMC and tBAc would not be allowed for inclusion in future rule amendments unless they are found to have known toxic profile factor by the Office of Environmental Health Hazard Assessment (OEHHA). In May 2017, SCAQMD staff resumed work on developing PAR 1168, but without including a proposal to include tBAc and DMC as VOC-exempt compounds.

PROJECT DESCRIPTION

The purpose of PAR 1168 is to further reduce emissions of VOCs, toxic air contaminants, and stratospheric ozone-depleting compounds from regulated products by limiting the VOC content. The proposed limits are based on market trends and market share of low-VOC products and feedback from manufacturers. In the 2016 AQMP, the total VOC emissions inventory from regulated products was estimated to be 4.1 tons per day (tpd). It is important to note that this inventory does not include consumer products subject to the CARB CPR. Also, this inventory does not include emissions from small sources ~~with permits, facilities that do not report as part of the Annual Emissions Reporting (AER) Program; and emissions from small sources that do not have permits~~. Inclusion in the AER Program is limited to larger facilities that emit at least four tons per year of a criteria pollutant. Based on the 2015 AER data, facilities emitted 0.1 tons per day of VOC under Rule 1168, which represents less than one percent of the overall inventory. In addition, survey data was provided by adhesive and sealant manufacturers and suppliers in 2013. Staff scaled the survey data to estimate the contribution by category since only a fraction of the products sold was provided. A growth factor was applied to estimate increased usage (population growth was used as a surrogate for increased usage). It has been determined that the inventory is

⁷ CARB, Consumer Products Regulation, March 5, 2015.
https://www.arb.ca.gov/consprod/regs/2015/article_2_final_1-22-15.pdf

⁸ SCAQMD, tBAc Assessment White Paper, April 2017.
http://www.aqmd.gov/docs/default-source/planning/tbac/tbac-draft_paper.pdf

~~approximately actually closer to~~ 10.5 tpd and~~-~~ PAR 1168 is anticipated to reduce VOC emissions by 1.43 tpd by 2023.

It is expected products not currently meeting the VOC content limits will be reformulated. In addition, PAR 1168 will: 1) clarify applicability; 2) revise, delete, and add definitions; 3) lower VOC limits for certain product categories and allow for a three-year sell-through and use-through; 4) add new product categories with corresponding VOC content limits; 5) require products marketed for use under varying categories to be subject to the lowest VOC limit; 6) prohibit the storage of non-compliant products, unless for shipment outside of the SCAQMD; 7) add test methods for analyzing VOC content; 8) add labeling requirements; 9) include reporting requirements for manufacturers, private labelers, Big Box retailers, distribution centers, and facilities that use a 55 gallon per year exemption; 10) prohibit the use of Rule 102 Group II exempt solvents, except volatile methyl siloxanes; 11) include a technology assessment for certain product categories; 12) remove, ~~modify~~~~restrict~~, or add exemptions; 13) ~~retain include~~—streamlined recordkeeping options for products with a VOC content of less than 20 grams per liter; and 14) allow products with a viscosity of 200 centipoise or greater to ~~retain an be exempted~~ from transfer efficiency requirements. The following is a detailed summary of the key elements contained in PAR 1168. A draft of PAR 1168 can be found in Appendix A.

Purpose and Applicability – subdivision (a)

Subdivision (a) will clarify that the rule applies to any person who uses, sells, stores, supplies, offers for sale or manufactures for sale any consumer product—adhesives, adhesive primers, sealants, and sealant primers, unless otherwise exempted by the rule. ~~not regulated by CARB and to products not used by household and institutional consumers or by manufacturing facilities for repair or maintenance.~~ All categories, excluding aerosol adhesives and aerosol adhesive primers, greater than one pound and consist of greater than 16 fluid ounces are subject to Rule 1168. Products that are one pound ~~(16 fluid ounces)~~ or less, or consist of 16 fluid ounces or less, and have an applicable VOC limit in the CARB CPR would not be regulated by PAR 1168, unless they are incorporated into or used exclusively for manufacturing goods or commodities for sale. ~~Any regulated product that is used exclusively for a business activity or to manufacture goods or commodities for sale would be subject to PAR 1168.~~ In addition, products used in pollution-generating activities that take place at stationary sources (including area sources), excluding maintenance and repair, are subject to PAR 1168. Figure 1-2 summarizes and differentiates the regulated products that would be subject to either PAR 1168 or the CARB CPR.

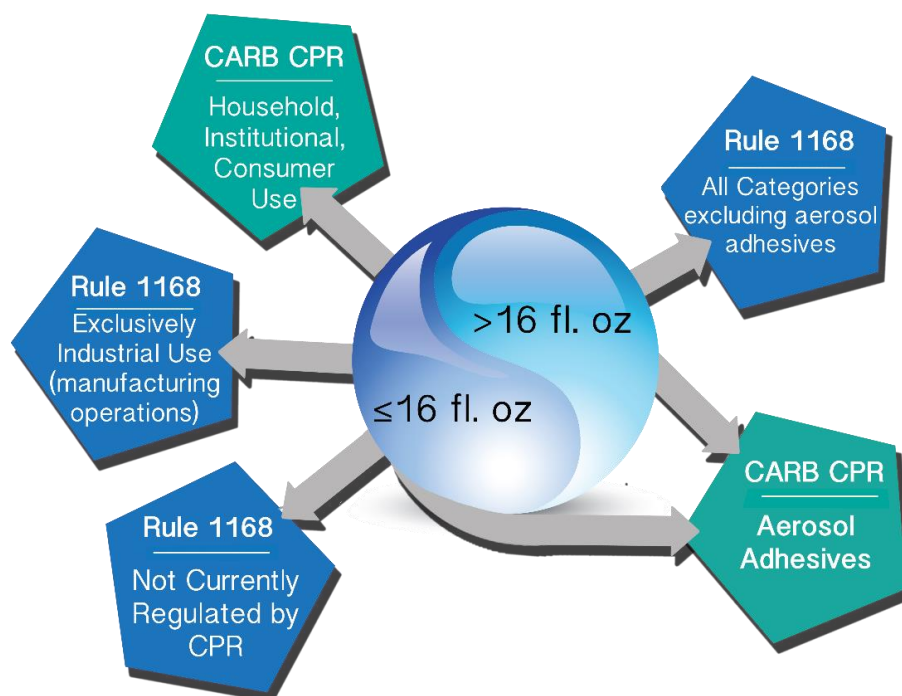


Figure 1-2
Comparison of SCAQMD Rule 1168 Applicability to CARB CPR

Definitions (b)

The following definitions are proposed to be added: ABS to PVC Transition Cement, ABS Welding Cement; Adhesive Tape; Aerosol Product~~Ambient Reactive Cure Adhesive~~; Architectural Appurtenance; Big Box Retailer, Building Envelope; Building Envelope Membrane Adhesives; Clear, Paintable, and Immediately Water-Resistant Sealant, Consumer Products Regulation~~(CPR)~~; CPVC Welding Cement; Dip Coat, Distribution Center; Edge Glue; Electrostatic Application; Energy Curable Adhesives and Sealants; ~~Establishments~~; Flow Coat; Foam Insulation; Foam Sealant, Grout; ~~Institutional Use~~; ~~Insulating Foam~~; Maintenance; Manufacturing; Marine Appurtenances; Non-Staining Plumbing Putty; Ozone-Depleting Compound; Plastic Adhesive Primer; Potable Water Architectural Sealant; Pressure Sensitive Adhesive; Private Labeler; Pump Spray; PVC Welding Cement; Quantity and Emissions Report (QER); Regulated Product; Reinforced Plastic Composite; Repair; Rubber; Rubber Vulcanization Adhesive; Toll Manufacturer; Toxic Air Contaminant (TAC); Vehicle Glass Adhesive Primer; Waterproof Resorcinol Glue.

Changes are proposed to the definitions to clarify the meaning of terms used throughout the rule and to provide more consistency between Rule 1168 and the Ozone Transport (OTC) Commission's Model Rule⁹ for Adhesives and Sealants. The OTC is a multi-state organization created under the Clean Air Act and is responsible for advising the U.S. EPA on transport issues and for developing regional solutions to the ground-level ozone problem. The OTC Model Rule for consumer products is applicable to the Northeast and Mid-Atlantic regions as part of a regional effort to attain and maintain the eight-hour ozone standard, and reduce eight-hour ozone levels.

⁹ OTC Model Rule for Consumer Products, May 10, 2012.

http://www.otcair.org/upload/Documents/Model%20Rules/OTC%20CP%20Model%20Rule%202012%20CLEAN_vs2010.2012%2005%2010.pdf

The following definitions are proposed to be revised including: Adhesive; Adhesive Primer; Aerosol Adhesive; Architectural Application; Ceramic, Glass, Porcelain, and Stone Tile Adhesive; Contact Adhesive; Cove Base; Cyanoacrylate Adhesive; Grams of VOC Per Liter of Regulated Product, Less Water and Less Exempt Compounds; Grams of VOC Per Liter of Material; Hand Application Methods; High-Volume, Low-Pressure (HVLP) Spray; Indoor Floor Covering Adhesive; Low-Solids; Marine Deck Sealant; Marine Deck Sealant Primer; Modified Bituminous Materials; Outdoor Floor Covering Adhesive; Person; Plastics; Polyethylene Terephthalate (PET, PETE); Polyethylene Terephthalate Glycol (PETG); Polyvinyl Chloride (PVC); Reactive Products; Roll Coater; Sealant; Sealant Primer; Single Ply Roof Membrane Sealant; Tire Tread Adhesive; Traffic Marking Tape; Traffic Marking Tape Adhesive Primer; Transfer Efficiency; Vinyl Compositions Tile.

The default category “Other” is proposed to be included in Table 1 instead of paragraph (c)(1) of the current rule language for clarification. The limit, however, nor the applicability will change from the existing rule.

Additionally, following definitions are proposed to be deleted either because they are obsolete or are redundant in that they restate a dictionary definition without providing additional insight: Adhesive Bonding Primer; Adhesive Primer for Plastic; Adhesive Promoter; Adhesive Solid; Aerosol Spray Can; Aerospace Component; Aircraft; Aircraft Tire Repair; Architectural Sealant or Sealant Primer; Ceramic Tiles; Coating Solid; Foam; Glue; Light Curable Adhesives and Sealants; Low-Solids Adhesive Primer; Nonmembrane Roof Adhesive; Nonmembrane Roof Sealant; Orthotics and Prosthetics; Polyurethane Foams; Primer; Propellant; Rubber Foam; Sheet Applied Rubber Lining Operation; Space Vehicle; Viscosity; Wood Parquet Flooring; Wood Plank Flooring.

Requirements – subdivision (c)

VOC Limits: Paragraph (c)(1) lists the VOC limits for multiple categories of adhesives, adhesive primers, sealants and sealant primers. Table 1-1 summarizes the proposed changes to various VOC limits for regulated products that would be subject to PAR 1168. While ~~some~~ most of the proposed new or revised VOC limits in PAR 1168 would go into effect upon the date of the rule adoption and on or before January 1, 2019~~24~~, there are several categories that have VOC limits that would go into effect on January 1, 2023 so as to allow additional time for product reformulation and testing. The following categories were also included to meet the United States Environmental Protection Agency’s (U.S. EPA) reasonably available control measures (RACM) and best available control measures (BACM) requirements: ~~cellulosic plastic welding, SAN welding adhesive,~~ reinforced plastic composite adhesives, and waterproof resorcinol glue. The VOC limit for All Other Plastic Welding Cements is proposed to be reduced to 100 g/L to address RACM/BACM requirements for cellulosic plastic welding and styrene acrylonitrile welding. In addition, PAR 1168 is proposing technology assessments to be conducted for the following categories: Foam Insulation; Foam Sealants; Plastic Welding Cement ~~Welding~~, including ABS to PVC Transition Cement ~~Welding~~, CPVC Welding Cement ~~Welding~~, and PVC Welding Cement ~~Welding~~; Roofing products, including All Other Roof Adhesives, Single Ply Roof Membrane Adhesives, All Other Roof Sealants, and Single Ply Roof Membrane Sealants, and Top and Trim Adhesives. The proposed VOC limits for these products are subject to the results of the technology assessments.

**Table 1-1
Regulated Product Categories and VOC Limits**

Category	VOC Content Limit (g/L) ¹				
	Current	Upon Rule Adoption	1/1/2019	4/1/2021	1/1/2023
Adhesives					
Architectural Applications					
<u>All Other Outdoor Floor Covering Adhesives</u>	150		50		
Plastic Welding					
ABS to PVC Transition Cement	510				425 325 ^{2*}
CPVC Welding Cement	490				400 ² 325*
PVC Welding Cement	510				425 ² 325*
<u>All Other Plastic Welding Cements-Cement Welding</u>	250		100		
Roofing					
<u>All Other Roof Adhesives</u>	250			200	200 ²
Single Ply Roof Membrane Adhesive	250			200	200 ²
Wood Flooring Adhesive	100			20	20
Rubber Vulcanization Adhesive	250	850		250	250
Top and Trim Adhesive	250	540			250 ²
Waterproof Resorcinol Glue			170		
Substrate Specific Adhesive					
Reinforced Plastic Composite	250		200		
Sealants					
Architectural Applications					
Clear, Paintable, Immediately Water Resistant	250	380		250	250
<u>Foam Insulation</u>	250				50 ³
Foam Sealant	250	200			50 ^{3*}
Grout	250	65			
Non-Staining Plumbing Putty	250	150			50
Potable Water <u>Sealant</u>	250	100			
Roofing					
All Other Roof <u>Sealants</u>	300			250	250 ²
Single Ply Roof Membrane <u>Sealant</u>	450			250	250 ²
All Other Architectural <u>Sealants</u>	250		50		
All Other Sealants	420			250	250
Adhesive Primers					
Pressure Sensitive	250	785			
Vehicle Glass	250	700			

1. ^{*}VOC limits are expressed as grams of VOC per liter of regulated product, less water and less exempt compounds, as defined, except for low-solid regulated products where the VOC limit is expressed in grams per liter of material.

- ~~2. Subject to technology assessment. Technology assessment will be conducted in by January 1, 2022 and the Executive Officer shall report on the results of the technology assessment to the Stationary Source Committee prior to the January 1, 2023 implementation date.~~
3. Technology assessment will be conducted in 2020 and the Executive Officer shall report on the results of the technology assessment to the Stationary Source Committee prior to the implementation date.

PAR 1168 proposes to reduce the VOC emissions by lowering the VOC content limits for most of the architectural adhesive and sealant categories. Compliance is expected through the reformulation of regulated products. Also, PAR 1168 proposes to temporarily reinstate the 540 grams per Liter (g/L) VOC limit for Top and Trim Adhesives and to exclude this category from a 55 gallon per year exemption to allow manufacturers time to reformulate to a 250 g/L VOC limit by 2023.

Regulated Product Categorization: Paragraph (c)(2) proposes to require products marketed for use under varying categories to be subject to the most restrictive lowest VOC limit of the varying categories. In particular, if anywhere on the regulated product container such as on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the regulated product may be used as, or is suitable for use as, a regulated product for which a lower VOC standard is specified in Table 1 or any other source specific rule application, for which there is a lower VOC standard, then the lowest VOC standard shall apply. However, this requirement would not apply to Substrate Specific Adhesives ~~Applications~~. For example, if a Substrate Specific Adhesive is used to bond dissimilar substrates together, the higher VOC content limit would apply.

Sell-Through Provision: Paragraph (c)(3) proposes to allow manufacturers and suppliers to deplete regulated products in the warehouse or on the shelf and allows users to use up any remaining product rather than disposing of them. The sell-through and use-through effective dates should accommodate the typical three year shelf life of these regulated products.

Disposal of Regulated Products and VOC-Laden Cloth: Paragraph (c)(4) proposes to require disposal provisions to apply to all regulated products and VOC-laden cloth or paper, instead of only products used for stripping cured adhesives or sealants.

Solvent Cleaning Operations: Paragraph (c)(5) proposes to specify that all cleaning operations are subject to Rule 1171 – Solvent Cleaning Operations.

Transfer Efficiency: Paragraph (c)(6) proposes minor clarifications for consistency with terms and definitions used throughout PAR 1168. Also, the exclusion for high viscosity regulated products is proposed to be moved to paragraph (i)(~~6~~4).

Control Devices: Paragraph (c)(7) proposes the following revisions to be consistent with other VOC rules: 1) to allow the use of an air pollution control device if it reduces VOC emissions by at least 95 percent by weight or the output of the device is not more than 50 ppm VOC by volume, calculated as carbon with no dilution; and 2) the owner or operator demonstrates that the emission collection system collects at least 90 percent by weight of the VOC emissions generated.

Storage and Mixing: A new storage prohibition is proposed to be added to paragraph (c)(10) to prohibit the storage of non-compliant regulated products on site unless the regulated products are being stored on site for the purpose of shipment outside of the District. Paragraph (c)(11) is also proposed to be added to require that containers for storage or mixing remain closed except while in use.

Methods of VOC Analysis – subdivision (e)

Three additional VOC content test methods are proposed to be added to subdivision (e), as follows:

- SCAQMD Method 313 – Determination of Volatile Organic Compounds (VOC) by Gas Chromatography-Mass Spectrometry
- ASTM Test Method 6886 (Standard Test Method for Determination of the Weight Percent Individual Volatile Organic Compounds in Water-borne Air-Dry Coatings by Gas Chromatography)
- Appendix A to Subpart PPPP of 40 CFR Part 63 – Determination of Weight Volatile Matter Content and Weight Solids Content of Reactive Adhesives

~~For compliance purposes, when more than one applicable test method or set of test methods are specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods constitutes a violation of the rule.~~

Paragraph (e)(1) clarifies that a test method will not be used if the test method specifically states it is not appropriate for a product type or product chemistry. When a test method specifies it is inapplicable to a product category, it shall not be used for that inapplicable category. The Executive Officer will develop a guidance document to determine which test method will be used when two or more applicable test methods can be used to demonstrate compliance with the rule. The selected test method will be used based on product type, chemistry, and VOC content.

Further, SCAQMD Method 302 is proposed to be removed. Instead, to allow for flexibility for new innovative test methodologies for emerging technologies, paragraph (e)(5) is proposed to be added to include other test methods to be used provided that they have been reviewed to be equivalent by the Executive Officer, CARB, and the U.S. EPA. In addition, paragraph subdivision (e)(6) proposes to clarify that all test methods referenced will be the most recently approved by the appropriate governmental entities.

Administrative Requirements – subdivision (f)

Labeling: Paragraph (f)(1) proposes new requirements for labels on regulated products to include VOC content and the date of manufacture, effective January 1, 2019. It is acceptable for the label to identify the VOC content as the maximum VOC allowed for the regulated product category or the maximum anticipated for a product instead of the specific VOC to account for batch-to-batch variations. Products stored in containers with a capacity of one fluid ounce or less and products solely subject to the CARB CPR are exempted from these labeling requirements. For those products subject to both the provisions of this rule and the CARB CPR, the manufacturer may include the VOC content in g/L on supplemental documentation for the product instead.

Additional labeling requirements are proposed for categories with higher VOC limits. The labeling requirement would require the specification of that type of product category's usage only (i.e., "For Top and Trim Uses Only"). This would prevent these products from being used under other product categories or usages. These categories will include:

- ABS to PVC Transition Cement
- Pressure Sensitive Adhesive Primer
- Top and Trim Adhesive
- Rubber Vulcanization Adhesive

Reporting Requirements: Paragraph (f)(2) proposes to add requirements to report data of regulated products sold into or within the SCAQMD. The reporting requirements will go into effect on September 1, 2019, and manufacturers and private labelers of regulated products will be required to submit a Quantity and Emission Report (QER) to the SCAQMD every three years, from years 2019 to 2025, and every five years, thereafter, until and including 2040, of the previous ~~two~~ ~~three~~ years sales data. The reporting requirement will sunset in 2040. The QERs will also need to include the product manufacturer name, product name and code, applicable Rule 1168 product category, the grams of VOC per liter of regulated product (less water and exempt solvents)~~regulatory VOC content, the grams of VOC per liter of material VOC content,~~ utilization of sell-through provision (if applicable), designation as to whether or not the product is Low Solids, whether the product type (is water-borne or /solvent-based),~~and~~ the total annual volume sold into or within the SCAQMD, including products sold through distribution centers located within or outside the SCAQMD (in gallons of for all container sizes), and whether the product was sold under a specific provision; low-solids product; exemption under subdivision (i); compliance with paragraph (c)(7) – Control Device; and/or compliance with paragraph(c)(8) – Alternative Emission Control.

Big Box ~~r~~etailers and distribution centers will also be required to report to the manufacturer or private labeler. Manufacturers and private labelers, who sell aerosol adhesives and aerosol adhesive primers into or within the SCAQMD, must also submit a report (QER) to the SCAQMD that includes the total weight sold and the percent VOC by weight~~content. However, the VOC content may be given in weight percent, which is consistent with the aerosol units within CARB's VOC limit requirements.~~

Facilities that use regulated products under a 55 gallon per year exemption, as cited in subparagraph (i)(57)(C), will be required to report the volume of products purchased and the name and address of the company where the products were purchased.

~~Lastly,~~ Paragraph (f)(3) includes a proposal that would require manufacturers or suppliers of regulated products to maintain records of VOC content determination. The VOC content determination may be calculated based on product formulation or by using a laboratory analysis. The records must be retained for three years and available upon request. Records for any product with a VOC content of 20 g/L or less may be identified as "20 g/L or less;" otherwise the records should reflect the calculated or analyzed VOC content.

Paragraph (f)(4) allows information submitted for reporting requirements to be designated as confidential.

Prohibition of Sales and Use – subdivision (g)

Rule 1168 currently prohibits the sale and use of products containing chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene. Paragraph (g)(~~23~~) proposes to also prohibit Rule 102 Group II exempt solvents except VMS in a regulated product for use, supply, sale or offered for sale.

In addition, the following clarifications to paragraph (g)(4) are proposed to the prohibition of sales: ~~1) the prohibition would not apply to products reasonably assumed to be subject to the CARB CPR or to manufacturers or suppliers who inform their distributors in writing that the regulated product is not to be used in the SCAQMD; and 2) notification letters will need to be maintained for three years and made available to the Executive Officer upon request.~~

Exemptions – subdivision (i)

The majority of exemptions in subdivision (i) remain the same in PAR 1168; however, subsequent to the release of the Draft EA, the paragraphs have been renumbered or organized into subparagraphs to streamline the section and provide more clarity. In addition, several new paragraphs and/or subparagraphs have been added to provide clarity to the purpose and applicability of the rule.

New paragraph (i)(1) includes existing exemptions that have been renumbered into various subparagraphs. Subparagraph (i)(1)(A) contains proposed revisions to an existing exemption which would ~~Revisions are proposed to an existing exemption in paragraph (i)(2) which would~~ replace the term “aerospace components” with adhesives, adhesive primers, sealants, or sealant primers and associated application processes that would be subject to SCAQMD Rule 1124 – Aerospace Assembly and Component Manufacturing Operations. New subparagraph (i)(~~15~~)(B) is proposed ~~to exempt adhesive tape. Subparagraph (i)(1)(C) clarifies that regulated products shipped, supplied, or sold to persons for use outside the District are exempt. New subparagraph (i)(~~17~~)(D) is proposed to clarify~~ sy that distribution centers that do not ship regulated products, aerosol adhesives, or aerosol adhesive primers into the District are exempt.

Revisions are proposed to an existing exemption in renumbered paragraph (i)(~~24~~) to clarify that ~~aerosol adhesives and aerosol adhesive primers dispensed from non-refillable aerosol spray systems~~ are subject to reporting requirements in subparagraph (f)(2)(~~C~~e).

New paragraph (i)(3) exempts certain regulated products from paragraphs (g)(~~12~~) and (g)(~~23~~). New subparagraph (i)(~~34~~)(A) is proposed to exempt products stored in containers with a capacity of one fluid ounce or less. Revisions are proposed to an existing exemption in renumbered subparagraph (i)(~~38~~)(B) to clarify that the prohibition of sale for products containing Rule 102 Group II exempt compounds described in paragraph (g)(~~23~~) would apply to the exemption for adhesives uses for gluing flowers to parade floats. Revisions are proposed to existing exemptions renumbered in subparagraphs (i)(~~34~~)(C) and (i)(~~43~~)(D) to clarify that the prohibition of sale of products containing Rule 102 Group II exempt compounds described in paragraph (g)(3) would apply to the exemptions for adhesives used to fabricate orthotics and prosthetics under a medical doctor’s prescription and shoe repair, luggage, and handbag adhesives, respectively.

Revisions are proposed to an existing exemption in renumbered subparagraph (i)(~~46~~)(A) to clarify that records shall be kept in accordance with the requirements in subdivision (c)(~~4~~). The existing exemption for solvent welding operations used in the manufacturing of medical devices has been renumbered to subparagraph (i)(4)(B).

The existing exemptions for adhesives used in tire repair or adhesives and or adhesive application processes in compliance with Rules 1104, 1106, 1128, 1130, and 1130.1 have been renumbered to subparagraphs (i)(5)(A) and (i)(5)(B), respectively. Revisions are proposed to an existing exemption in renumbered subparagraph (i)(57)(C) to clarify that a 55 gallon per year exemption will cover a calendar year and will not be available to users of Rubber Vulcanization Adhesives or Top and Trim Adhesives, effective January 1, 2019. New subparagraph (i)(45)(D) is proposed to exempt products used in field installation and repair or potable water linings and covers at water treatment, storage or water distribution facilities from requirements in paragraph (c)(1).

New paragraph (i)(64) is proposed to exempt products with a viscosity of 200 centipoise or greater from paragraph (c)(6).

New paragraph (i)(74) is proposed to exempt products offered for sale as a dry mix, containing no polymer, which are ready for use or only mixed with water prior to use, including, but not limited to grouts, cements, and mortars and to thermoplastic hot melt adhesives from requirements in subdivision (f).

New paragraph (i)(83) is proposed to exempt products with a VOC content of no more than 20 grams per liter, less water and less exempt compounds, or no more than 20 grams per liter material for low-solids products. However, the products will still be subject to subdivisions (f) and (g).

New paragraph (i)(9) proposes to exempt solvent welding formulations containing methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephthalate glycol plastic fabrications from requirements in paragraphs (g)(12) and (g)(23) until January 1, 2021. Solvent welding formulations will be exempt provided: 1) the concentration of methylene chloride does not exceed 60 percent by weight; and 2) the purchase of all solvent welding product does not exceed 20 gallons per calendar year at a single facility, as demonstrated with purchase records and invoices. These records will need to be made available to the Executive Officer upon request.

Paragraph (i)(10) is an existing exemption that has been revised to clarify regulated products, weighing one pound or less, or consisting of 16 fluid ounces or less and have VOC limits in the CARB CPR, are not subject to the rule unless these regulated products are incorporated into or used exclusively in the manufacture or construction of the goods or commodities, or used in pollution-generating activities that take place at stationary sources (including areas sources) and excluding maintenance and repair of the stationary source.

New paragraph (i)(11) exempts manufacturers or supplies from regulated products from the requirements in subdivision (g), as long as the products are sold to an independent distributor and informed that the products are not to be used in the SCAQMD. Records would be need to be maintained for three years and available to the Executive Officer.

CHAPTER 2

ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Draft Environmental Assessment for Proposed Amended (PAR) Rule 1168 – Adhesive and Sealant Applications
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Ms. Diana Thai, (909) 396-3443
PAR 1168 Contact Person:	Ms. Nicole Silva, (909) 396-3384
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	PAR 1168 would further reduce emissions of VOCs, toxic air contaminants, and stratospheric ozone-depleting compounds from adhesives, adhesive primers, sealants and sealant primers. PAR 1168 will clarify applicability; revise, delete, and add definitions; lower VOC limits for certain categories and allow for a three-year sell-through and use-through; add new product categories with corresponding VOC content limits; require products marketed for use under varying categories to be subject to the lowest VOC limit; prohibit the storage of non-compliant products, unless for shipment outside of the SCAQMD; add test methods for analyzing VOC content; add labeling requirements; include reporting requirements for manufacturers, private labelers, Big Box retailers, distribution centers, and facilities that use a 55 gallon per year exemption; prohibit the use of Rule 102 Group II exempt solvents, except volatile methyl siloxanes; include a technology assessment for certain product categories; remove, restrict, or add exemptions; include streamlined recordkeeping options for products with a VOC content of less than 20 grams per liter; and allow products with a viscosity of 200 centipoise or greater to be exempted from transfer efficiency requirements. Some sites affected by PAR 1168 may be identified on lists compiled by the California Department of Toxic Substances Control per Government Code Section 65962.5. The analysis of PAR 1168 in the Draft Final EA did not result in the identification of any environmental topic areas that would be significantly adversely affected.

Surrounding Land Uses and Setting: Various

Other Public Agencies Whose Approval is Required: Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" involve at least one impact that is a "Potentially Significant Impact". An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | |
|-------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Air Quality and Greenhouse Gas Emissions | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Solid and Hazardous Waste |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Transportation and Traffic |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guidelines Section 15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and, 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: 1) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards; and, 2) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: August 11, 2017

Signature: _____



Barbara Radlein
Program Supervisor, CEQA Special Projects
Planning, Rules, and Area Sources

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Rule 1168 applies to any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers, unless otherwise specifically exempted by the rule. Rule 1168 also applies to regulated products that are consumer products not regulated by CARB in the CPR; incorporated into or used exclusively in the manufacture or construction of the goods or commodities; used in pollution-generating activities that take place at stationary sources, excluding maintenance and repair, excluding consumer and institutional use, where the units of product, less packaging, weigh less than one pound and consist of less than 16 fluid ounces, and where there is an applicable VOC limit in the CARB CPR. As discussed in Chapter 1, the main focus of PAR 1168 is to reduce emissions of VOCs, toxic air contaminants, and stratospheric ozone-depleting compounds from these products. To accomplish this goal, PAR 1168 proposes to lower the VOC content limits of several categories of regulated products, add new product categories with corresponding VOC content limits, and prohibit the use of Rule 102 Group II exempt solvents (except VMS) from regulated product formulations. In order to comply with PAR 1168, manufacturers are expected to reformulate their regulated products with chemicals that contain less VOCs, less or no toxics, and no stratospheric ozone-depleting compounds. However, while product reformulation may create an environmental benefit, it also is a physical change that may also create secondary adverse environmental impacts.

Also, PAR 1168 proposes to temporarily reinstate the 540 g/L VOC limit for Top and Trim Adhesives and to exclude this category from a 55 gallon per year exemption to allow manufacturers time to reformulate to a 250 g/L VOC limit by 2023. It is important to note that a forgone emissions decrease of 0.21 tpd in the Top and Trim Adhesives category would be expected to occur due to the temporary, proposed reinstatement of 540 g/L VOC limit which is also considered a secondary adverse environmental impact. However, it should be noted that current Top and Trim Adhesives are formulated and complying with a 540 g/L VOC content limit.

While there are other requirements in PAR 1168 that are necessary to support compliance with the rule, the following components of PAR 1168 are administrative or procedural in nature and as such, would not be expected to cause any physical changes: revising, adding, or deleting definitions; clarifying rule language; clarifying applicability, labeling, and recordkeeping requirements; prohibiting the storage of non-compliant products; adding test methods for analyzing VOC content; adding reporting requirements; and including technology assessments. As such, these components of PAR 1168 would not be expected to create any secondary adverse environmental impacts.

For these reasons, the analysis in this EA focuses on the potential secondary adverse environmental impacts associated with product reformulation and temporarily reinstatement of the 540 g/L VOC limit for Top and Trim Adhesives. The effects of implementing these two key rule components in PAR 1168 has been evaluated relative to the environmental topics identified in the following environmental checklist (e.g., aesthetics, agriculture and forestry resources, biological resources, etc.).

Subsequent to the release of the Draft EA for public review and comment, minor modifications were made to PAR 1168 that are described in the Project Description section in Chapter 1. These modifications are indicated in the strikeout/underlined text. Staff has reviewed these modifications and concluded that overall, no new impacts are anticipated to result from these modifications. Further, the impacts previously evaluated in the Draft EA would not be made substantially worse

and the conclusions reached in the Draft EA remain unchanged in the Final EA with respect to the current version of PAR 1168. Thus, staff has concluded that none of the modifications constitute significant new information of substantial importance relative to the Draft EA. In addition, revisions to PAR 1168 in response to verbal or written comments received during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the document pursuant to CEQA Guidelines Sections 15073.5 and 15088.5.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

I. a), b) c) & d) No Impact. Compliance with PAR 1168 is expected to be met with manufacturers reformulating regulated products by substituting certain chemicals with other chemicals that contain less VOCs, less or no toxics, and no stratospheric ozone-depleting compounds. Physical modifications to or new installations of manufacturing equipment would not be expected to be needed in order to reformulate products. Similarly, since the reformulated products will need to comply with the lower VOC limits and as such, would contribute less to air pollution, modifications to existing or installation of new air pollution control equipment would also not be expected to be necessary in order for manufacturers to reformulate their products in order to comply with the revised VOC limits in PAR 1168. Therefore, implementation of PAR 1168 would not be expected to require any construction to install new or modify existing buildings or other structures that would obstruct scenic resources or degrade the existing visual character of a site, including, but not limited to, trees, rock outcroppings, or historic buildings. Similarly, additional light or glare would not be created which would adversely affect day or nighttime views in the area because no light generating equipment would be required to comply with PAR 1168. Further, the manufacturing of PAR 1168-compliant regulated products would not appreciably change the visual profile of the building(s) where regulated products are manufactured, because any changes to the manufacturing process would occur inside the facility's buildings and not affect the exterior of the structure in any way.

Conclusion

Based upon these considerations, significant adverse aesthetics impacts are not expected from implementing PAR 1168. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on agriculture and forestry resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

II. a), b), c), & d) No Impact. Compliance with PAR 1168 is expected to be met with manufacturers reformulating regulated products by substituting certain chemicals with other chemicals that contain less VOCs, less or no toxics, and no stratospheric ozone-depleting compounds. Physical modifications to or new installations of manufacturing equipment would not be expected to be needed in order to reformulate products. Similarly, since the reformulated products will need to comply with the lower VOC limits and as such, would contribute less to air pollution, modifications to existing or installation of new air pollution control equipment would also not be expected to be necessary in order for manufacturers to reformulate their products in order to comply with the revised VOC limits in PAR 1168. For these reasons, implementation of PAR 1168 would not convert farmland to non-agricultural use or conflict with zoning for agriculture use or a Williamson Act contract. Further, the manufacture of compliant regulated products is expected to occur within the confines of existing industrial facilities and would not require converting farmland to non-agricultural uses. Any changes to the manufacturing process (e.g., the substitution of chemicals) would occur inside each affected manufacturer's building(s). Similarly, it is expected PAR 1168 would not result in the loss of forest land or conversion of forest land to non-forest use. Consequently, the proposed project would not create any significant adverse agriculture or forestry impacts.

Conclusion

Based upon these considerations, significant adverse agriculture and forestry resources impacts are not expected from implementing PAR 1168. Since no significant agriculture and forestry resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

To determine whether or not air quality and greenhouse gas impacts from implementing PAR 1168 are significant, impacts will be evaluated and compared to the criteria in Table 2-1. PAR 1168 will be considered to have significant adverse impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

**Table 2-1
SCAQMD Air Quality Significance Thresholds**

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM₁₀	150 lbs/day	150 lbs/day
PM_{2.5}	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Cancer Burden $>$ 0.5 excess cancer cases (in areas \geq 1 in 1 million) Chronic & Acute Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^d		
NO₂ 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM₁₀ 24-hour average annual average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$	
PM_{2.5} 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
SO₂ 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 $\mu\text{g}/\text{m}^3$ (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 $\mu\text{g}/\text{m}^3$ (state) 0.15 $\mu\text{g}/\text{m}^3$ (federal)	

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq = greater than or equal to
MT/yr CO₂eq = metric tons per year of CO₂ equivalents $>$ = greater than

Revision: March 2015

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

III. a) Less Than Significant Impact. The SCAQMD is required by law to prepare a comprehensive district-wide Air Quality Management Plan (AQMP) which includes strategies (e.g., control measures) to reduce emission levels to achieve and maintain state and federal ambient air quality standards, and to ensure that new sources of emissions are planned and operated to be consistent with the SCAQMD's air quality goals. The AQMP's air pollution reduction strategies include control measures which target stationary, area, mobile and indirect sources. These control measures are based on feasible methods of attaining ambient air quality standards. Pursuant to the provisions of both the state and federal Clean Air Acts, the SCAQMD is also required to attain the state and federal ambient air quality standards for all criteria pollutants.

The most recent regional blueprint for how the SCAQMD will achieve air quality standards and healthful air is outlined in the 2016 AQMP¹⁰ which contains multiple goals of promoting reductions of criteria air pollutants, greenhouse gases, and toxics. In particular, the 2016 AQMP contains control measure CTS-01: Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants, which identifies Rule 1168 as a VOC rule that has the potential to achieve additional VOC emission reductions. In addition, the 2016 AQMP includes control measure MCS-01: Application of All Feasible Measures Assessment, which seeks to achieve emission reductions from all pollutants.

Compliance with PAR 1168 is expected to occur through the reformulation of regulated products. Manufacturers are expected to reformulate using chemicals that contain less VOCs, less or no toxic compounds, and no stratospheric ozone-depleting compounds to make regulated products that comply with the reduced VOC content requirements and the prohibition of Group II exempt solvents (except VMS) in PAR 1168. Upon full implementation, PAR 1168 is estimated to achieve approximately 1.43 tons per day tpd of VOC emission reductions.

¹⁰ SCAQMD, Final 2016 Air Quality Management Plan, March, 2017. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf>

For one product category, Top and Trim Adhesives are used to adhere automobile and marine trim, including headliners, vinyl tops, vinyl trim, sunroofs, dash covering, door covering, floor covering, panel covering and upholstery. Staff found emissions increased from the use of these products compared to the estimated reductions proposed in previous versions of the rule, through the use of the volume usage exemption of 55 gallons per year. The emissions were shown to increase by 0.04 tpd. Since 2003, the 250 g/L was delayed twice to allow manufacturers additional time to reformulate, because manufacturers were unable to make Top and Trim Adhesives that could achieve this VOC limit. Delaying compliance with the 250 g/L VOC limit meant that the 540 g/L VOC limit was still in effect. However, the 2003 and 2005 versions of Rule 1168 at that time did not explicitly identify the VOC limit as 540 g/L for Top and Trim Adhesives. It is important to note that a foregone emission decrease of 0.21 tpd in the Top and Trim Adhesives category would be expected to occur due to the temporary, proposed reinstatement of the 540 g/L VOC limit. However, by 2023, the VOC content limit the Top and Trim Adhesives category is proposed to be lowered to 250 g/L, allowing the SCAQMD to maintain the VOC emission reductions previously claimed in the 2003 and 2005 versions of the rule (see Section III. b) and f) for further details). In addition to reinstating the 540 g/L limit, PAR 1168 is also proposing to exclude Top and Trim Adhesives from a 55 gallon per year exemption. This will allow manufacturers time to reformulate to 250 g/L by 2023 and allow the District to maintain the emissions reductions already claimed in previous amendments to the rule.

In addition, PAR 1168 contains a restriction for products marketed for use under varying categories to be subject to the lower VOC limit of the varying categories. This restriction is expected to assure that the lowest VOC containing products are marketed.

For these reasons, PAR 1168 is not expected to obstruct or conflict with the implementation of the 2016 AQMP because the emission reductions from implementing PAR 1168 are in accordance with the emission reduction goals in the 2016 AQMP. PAR 1168 would reduce VOC and toxic emissions and therefore, be consistent with the goals of the 2016 AQMP. Therefore, implementing PAR 1168 to reduce VOC and toxic emissions from regulated products would not conflict with or obstruct implementation of the applicable air quality plans. Attainment of the state and federal ambient air quality standards will protect sensitive receptors and the public in general from the adverse effects of criteria pollutants, including VOCs, which are known to have adverse human health effects. Since no significant impacts were identified for this issue, no mitigation measures are necessary or required.

III. b) and f) Less Than Significant Impact. For a discussion of these items, refer to the following analysis.

Construction Impacts

Compliance with PAR 1168 is expected to be met by manufacturers reformulating regulated products. The manufacture of regulated products is expected to use the same or similar equipment currently utilized to manufacturer compliant regulated products. Therefore, the manufacture of regulated products is not expected to require physical changes or modifications that would involve construction activities. As a result, there would be no construction air quality impacts resulting from PAR 1168.

Operational Impacts

The emission reductions are estimated using the scaled sales volume and reported VOC content emission inventory data collected from the survey. The emission reductions are calculated by assuming the material VOC content of products currently above the proposed limit will be reformulated to meet the proposed VOC limits as indicated in Table 1-1. The estimated emissions reductions are presented in Table 2-2.

Table 2-2
Estimated Emission Reductions from PAR 1168

Category	Emission Reductions (tpd)				
	Upon Adoption	2019	2021	2023	Total Reduction (tpd)
<u>All Other Architectural Sealants</u>		0.378			0.378
Clear, Paintable, and Immediately Water Resistant Sealant			0.02	0.02	0.02
CPVC Welding Cement				0.01	0.01
Foam Sealant				0.232	0.232
<u>All Other Roof Adhesives</u>			0.04	0.04	0.04
<u>All Other Roof Sealants</u>			0.15	0.14	0.145
<u>All Other Sealants</u>			0.06	0.06	0.06
PVC Welding Cement				0.1822	0.1822
<u>Rubber Vulcanization Adhesive</u>				0.06	0.06
Single Ply Roof Adhesive			0.06	0.05	0.056
Single Ply Roof Membrane Sealant			0.005	0.003	0.0035
Top and Trim Adhesive	-0.21			0.21	
Wood Flooring Adhesive			0.26	0.24	0.246
Totals:	-0.21	0.378	0.59	1.160.66	1.3843

Compliance with PAR 1168 is expected to be met with manufacturers reformulating regulated products by substituting certain chemicals with other chemicals that contain less VOCs, less or no toxics, and no stratospheric ozone-depleting compounds. Regulated products are expected to be used in a similar fashion to currently compliant regulated products. Physical modifications to or new installations of manufacturing equipment would not be expected to be needed in order to reformulate products. Similarly, since the reformulated products will need to comply with the lower VOC limits and as such, would contribute less to air pollution, modifications to existing or installation of new air pollution control equipment would also not be expected to be necessary in order for manufacturers to reformulate their products in order to comply with the revised VOC limits in PAR 1168. It is important to note that a foregone emission decrease of 0.21 tpd in the Top and Trim Adhesives category would be expected to occur due to the temporary, proposed reinstatement of the 540 g/L VOC limit. By 2023, the VOC content limit will be lowered to 250 g/L, allowing the SCAQMD to maintain the emissions reductions already claimed in the 2003 and 2005 versions of the rule. PAR 1168 is expected to result in an overall VOC emission reduction

of 1.43 tpd and does not exceed any one of the thresholds in Table 2-1. Products are expected to be reformulated with water-borne technology or VOC exempt solvents. In addition, manufacturers are expected to reformulate with less toxic compounds, since Group II exempt solvents (except VMS) will be prohibited. The reduction in VOC content is expected to only affect VOC emissions, i.e., no other criteria pollutant emissions. Therefore, it is not considered to have a significant air quality impact.

III. c) Less Than Significant Impact.

Cumulatively Considerable Impacts

Based on the foregoing analysis, since criteria pollutant project-specific air quality impacts from implementing PAR 1168 would not be expected to exceed the air quality significance thresholds in Table 2-1, cumulative air quality impacts are also expected to be less than significant. SCAQMD cumulative significance thresholds are the same as project-specific significance thresholds. Therefore, potential adverse impacts from implementing PAR 1168 would not be “cumulatively considerable” as defined by CEQA Guidelines Section 15064(h)(1) for air quality impacts. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.

The SCAQMD guidance on addressing cumulative impacts for air quality is as follows: “As Lead Agency, the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR.” “Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”¹¹

This approach was upheld by the Court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334. The Court determined that where it can be found that a project did not exceed the South Coast Air Quality Management District’s established air quality significance thresholds, the City of Chula Vista properly concluded that the project would not cause a significant environmental effect, nor result in a cumulatively considerable increase in these pollutants. The court found this determination to be consistent with CEQA Guidelines Section 15064.7, stating, “The lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect.” The court found that, “Although the project will contribute additional air pollutants to an existing nonattainment area, these increases are below the significance criteria...” “Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact.” As in *Chula Vista*, here the SCAQMD has demonstrated, when using accurate and appropriate data and assumptions, that the project will not exceed the established SCAQMD significance thresholds. See also, *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. Here again the court upheld the SCAQMD’s approach to utilizing the established air quality significance thresholds to

¹¹ SCAQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3. <http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf>.

determine whether the impacts of a project would be cumulatively considerable. Thus, it may be concluded that the proposed project will not contribute to a significant unavoidable cumulative air quality impact.

III. d) Less Than Significant Impact. Compliance with PAR 1168 is expected to be met with the reformulation of regulated products. Reformulated regulated products are expected to be used in a similar fashion to compliant regulated products. Products are expected to be reformulated with water-borne technology or VOC exempt solvents. In addition, manufacturers are expected to reformulate with less toxic compounds and non-ozone-depleting compounds, since Group II exempt solvents (except VMS) will be prohibited. PAR 1168 is expected to result in an overall VOC emission reduction of 1.43 tpd. The reduction in VOC content is expected to only affect VOC emissions, i.e., no other criteria pollutant emissions. Sensitive receptors are not expected to be exposed to substantial pollutant concentrations from the implementation of PAR 1168 for the following reasons: 1) as analyzed in Section III. b) and f), there are no operational increases of VOC emissions associated with PAR 1168; 2) implementing PAR 1168 is expected to reduce VOC emissions in the SCAQMD by approximately 1.43 tpd by 2023; 3) products are expected to be formulated with replacement chemicals that contain less VOCs, less or no toxics, and no stratospheric ozone-depleting compounds than what are currently used in products regulated by PAR 1168; and 4) the use of future compliant materials must comply with all applicable SCAQMD rules and regulations. By achieving these VOC emission reductions, VOC concentrations are expected to be lessened as a result of implementing PAR 1168. As such, any future exposures to sensitive receptors from implementing PAR 1168 is expected to be lessened (a benefit) when compared to the existing setting. Further, as previously explained in Section III. a), attainment of the state and federal ambient air quality standards will protect sensitive receptors and the public in general from the adverse effects of criteria pollutants, including VOCs, which are known to have adverse human health effects. For these reasons, implementation of PAR 1168 is not expected to expose sensitive receptors to substantial pollutant concentrations. Therefore, no significant adverse air quality impacts to sensitive receptors are expected from implementing PAR 1168.

III. e) Less Than Significant Impact.

Odor Impacts

Odor problems depend on individual circumstances. For example, individuals can differ quite markedly from the populated average in their sensitivity to odor due to any variety of innate, chronic or acute physiological conditions. This includes olfactory adaptation or smell fatigue (i.e., continuing exposure to an odor usually results in a gradual diminution or even disappearance of the smell sensation).

During the manufacturing process, manufacturers may utilize some replacement solvents (e.g., parachlorobenzotrifluoride (PCBTF)) that may individually have a distinct aromatic odor. Currently, PCBTF is allowed to be used in formulations and odor has not been an issue for these products. Replacing other chemicals with solvents, such as PCBTF, would not necessarily cause more of an issue with odor, because once a replacement chemical is blended with other components, the end product may have an entirely different odor profile that could lessen the distinct odor. Thus, if other chemicals with distinct odors are used for reformulation under PAR 1168, odor issues would not be expected to be a problem. Further, if water is used to replace other VOC-containing chemicals as part of reformulation, water does not have an appreciable odor. Thus, products that are reformulated with water would be expected to have a less distinct overall

odor than products made with VOC-containing chemicals. For these reasons, reformulated products made to have lesser amounts of VOC-containing materials would not be expected to have appreciably increased or different odor impacts than the currently used materials. Furthermore, local governments typically have ordinances that are intended to protect the public from adverse odors. SCAQMD Rule 402 – Nuisance, also protects the public from adverse odor impacts. During construction, manufacturers would have ventilation systems vented to air pollution control equipment and require employees to wear personal protective equipment to protect from odors. However, no construction is expected since reformulation of products will take place within existing manufacturer's building(s). For these reasons, odor impacts from the reformulation of products is not expected to create significant adverse objectionable odors during construction or operation. Since no significant impacts were identified for this issue, no mitigation measures for odors are necessary or required.

III. g) and h) No Impact.

Greenhouse Gas (GHG) Impacts

Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming. State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (Health and Safety Code Section 38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

Traditionally, GHGs and other global warming pollutants are perceived as solely global in their impacts and that increasing emissions anywhere in the world contributes to climate change anywhere in the world. A study conducted on the health impacts of CO₂ "domes" that form over urban areas cause increases in local temperatures and local criteria pollutants, which have adverse health effects¹².

The analysis of GHGs is a different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO₂ is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame. As a result, the SCAQMD's current position is to evaluate the effects of GHGs over a longer timeframe than a single day (i.e., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects.

¹² Jacobsen, Mark Z. "Enhancement of Local Air Pollution by Urban CO₂ Domes," Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: <http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html>.

Compliance with PAR 1168 is expected through manufacturers reformulating regulated products. As explained in Section III. b) and f), implementation of PAR 1168 is not expected to involve or require construction activities that would utilize GHG emitting combustion equipment. Further, the types of chemicals that are used for reformulating products in order to reduce the content of VOCs, toxics, and stratospheric ozone-depleting substances do not contain any GHG compounds (e.g., CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆). Therefore, PAR 1168 is not expected to generate GHG emissions either directly or indirectly, that may have a significant impact on the environment. Further, as noted in Section III. a), implementation of PAR 1168 would not be expected to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing criteria pollutants and the same is true for GHG emissions since GHG emissions would not be impacted in any way by PAR 1168. Therefore, GHG impacts are not considered significant.

Conclusion

Based upon these considerations, significant air quality and GHG emissions impacts are not expected from implementing PAR 1168. Since no significant air quality and GHG emissions impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

IV. a), b), c), & d) No Impact. The proposed project does not require the acquisition of land to comply with the provisions of PAR 1168. Further, compliance with PAR 1168 would be expected to be met with manufacturers reformulating regulated products within their existing structures and facilities. The manufacture of regulated products is expected to use the same or similar equipment currently utilized to manufacturer compliant regulated products. Therefore, the manufacture of regulated products is not expected to require physical changes or modifications that would involve construction activities to install new or modify existing manufacturing equipment or air pollution control equipment. Thus, PAR 1168 is not expected to adversely affect in any way habitats that support riparian habitat, federally protected wetlands, or migratory corridors. Similarly, since implementing PAR 1168 would not require the construction of any structures, special status plants, animals, or natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service are not expected to be adversely affected. The reformulation of regulated products to comply with PAR 1168 are similar to the formulation in existing compliant regulated products except the reformulated regulated products are expected to be formulated with water, low-solvent, VOC exempt solvents, or less toxic solvents to meet the lower VOC content limits and comply with existing toxic rules

(e.g., SCAQMD Rules 1401 and 1402). In addition, PAR 1168 prohibits the use of Group II exempt solvents (except VMS), which would lower the toxic emissions from regulated products. Therefore, PAR 1168 would have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely in the SCAQMD.

IV. e) & f) No Impact. The proposed project is not expected to conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because PAR 1168 does not require the construction of any new or modified structures or new development in undeveloped areas. Additionally, PAR 1168 would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, and would not create divisions in any existing communities because compliance with PAR 1168 would involve reformulation of regulated products in previously disturbed areas which are not typically subject to Habitat or Natural Community Conservation Plans.

Conclusion

Based upon these considerations, significant biological resource impacts are not expected from implementing PAR 1168. Since no significant biological resource impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource, site, or feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance, or tribal cultural significance to a community or ethnic or social group or a California Native American tribe.
- Unique paleontological resources or objects with cultural value to a California Native American tribe are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufacturers for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent

manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

V. a), b), c), d) & e) No Impact. No construction-related activities to existing manufacturing facilities would be associated with the implementation of PAR 1168; therefore, no impacts to historical or cultural resources are anticipated to occur. Further, PAR 1168 is not expected to require physical changes to the environment, such as construction, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries. PAR 1168 is not expected to require physical changes to a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American Tribe. Furthermore, PAR 1168 is not expected to result in a physical change to a resource determined to be eligible for inclusion or listed in the California Register of Historical Resources or included in a local register of historical resources. For these reasons, PAR 1168 is not expected to cause any substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074.

As part of releasing this CEQA document for public review and comment, the SCAQMD also provided a formal notice of the proposed project to all California Native American Tribes (Tribes) that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code Section 21080.3.1(b)(1). The NAHC notification list provides a 30-day period during which a Tribe may respond to the formal notice, in writing, requesting consultation on the proposed project.

In the event that a Tribe submits a written request for consultation during this 30-day period, the SCAQMD will initiate a consultation with the Tribe within 30 days of receiving the request in accordance with Public Resources Code Section 21080.3.1(b). Consultation ends when either: 1) both parties agree to measures to avoid or mitigate a significant effect on a Tribal Cultural Resource and agreed upon mitigation measures shall be recommended for inclusion in the environmental document [see Public Resources Code Section 21082.3(a)]; or, 2) either party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached [see Public Resources Code Section 21080.3.2(b)(1)-(2) and Section 21080.3.1(b)(1)].

Conclusion

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PAR 1168. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to energy resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer’s building(s). Since, VOC emissions will be reduced through reformulation, no new

or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

VI. a), b), c), d) & e) No Impact. The manufacturing of reformulated regulated products is expected to utilize similar equipment currently used to manufacture compliant regulated products. Regulated products that are reformulated are expected to be used and applied in a similar fashion to compliant regulated products. PAR 1168 is not expected to require physical changes or modifications that involve construction activities. Those who manufacture or use compliant regulated products are expected to comply with any relevant existing energy conservation plans and standards, and implementation of PAR 1168 would not require changes to existing energy conservation plans and standards. As a result, PAR 1168 would not conflict with adopted energy conservation plans, create a need for new or substantially altered power or natural gas utility systems, or create any significant adverse effects on peak and base period demands for electricity, natural gas, or other forms of energy, or adversely affect energy producers or energy distribution infrastructure. PAR 1168 would also not create any significant effects on peak and base period demands for electricity or other forms of energy.

Conclusion

Based upon these considerations, significant adverse energy impacts are not expected from implementing PAR 1168. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction, or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.

- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

VII. a) No Impact. PAR 1168 would not result in any construction activities. The manufacture or use of regulated products would be expected to take place at existing settings that are not expected to substantially change as a result of the proposed rule. Thus, PAR 1168 would not alter the exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death involving the rupture of an earthquake fault, seismic ground shaking, ground failure or landslides is not anticipated.

VII. b) No impact. PAR 1168 would not require the installation of new or the modification of existing manufacturing equipment, air pollution control equipment or any structures. Since PAR 1168 does not involve construction activities whatsoever, no soil disruption from excavation, grading, or filling activities; changes in topography or surface relief features; erosion of beach sand; or changes in existing siltation rates are anticipated from the implementation of this proposed project.

VII. c) No Impact. Since PAR 1168 would not require any construction activities, no excavation, grading, or filling activities would be expected to occur in order to comply with the proposed project. For these reasons, subsidence is not anticipated to be a problem. Further, the proposed project would not require the drilling or removal of underground products (e.g., water, crude, oil, etc.) that could produce subsidence effects. Since no groundwork or earth moving activities would

be required as part of PAR 1168, no new landslide effects or changes to unique geologic features would occur.

VII. d) & e) No Impact. Since PAR 1168 would not require the installation of new or the modification of existing manufacturing equipment, air pollution control equipment or any structures, no earth-moving activities would be expected to occur. Therefore, no persons or property will be exposed to new impacts related to expansive soils or soils incapable of supporting water disposal. Further, PAR 1168 would not require the installation of septic tanks or other alternative wastewater disposal systems. The main effect of the proposed project would be to lower the VOC content limits. Thus, implementation of PAR 1168 will not adversely affect soils associated with a installing a new septic system or alternative wastewater disposal system or modifying an existing sewer.

Conclusion

Based upon these considerations, significant adverse geology and soils impacts are not expected from the implementation of PAR 1168. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

VIII. a), b), & c) Less than Significant Impact. PAR 1168 does not include any provisions that would directly or indirectly dictate the use of any specific regulated product formulations with the exception of prohibiting Group II exempt solvents (except VMS), which are, or are potentially toxic or contain stratospheric ozone-depleting compounds. Manufacturers will have the flexibility to choose the product formulation that best suits their needs.

A number of physical or chemical properties may cause a substance to be a fire hazard. With respect to determining whether any conventional or replacement solvent is a fire hazard, Product Data Sheets (PDS) lists the National Fire Protection Association (NFPA) 704 flammability hazard ratings. NFPA 704 is a “standard (that) provides a readily recognized, easily understood system for identifying flammability hazards and their severity using spatial, visual, and numerical methods to describe in simple terms the relative flammability hazards of a material¹³. However, there are limitations to the NFPA 704 rating system, because a substance can have the same NFPA 704 flammability rating code. Other factors can make a substance's fire hazard different from each

¹³ National Fire Protection Association, FAQ for Standard 704. http://www.nfpa.org/assets/files/aboutthecodes/704/704_faqs.pdf

other, depending on its chemical characteristics. Flashpoint is a particularly important measure of the fire hazard of a substance. The Consumer Products Safety Commission (CPSC) promulgated Labeling and Banning Requirements for Chemicals and Other Hazardous Substances in U.S.C. Section 1261 and 16 CFR Part 1500 is based on flammability and flash point.

Current regulated products are water-borne (minimal VOC) or use the following VOC-containing solvents in their formulations: acetone, methyl ethyl ketone (MEK), tetrahydrofuran (THF), PCBTF, xylene, cyclohexane, hexane, heptane, and toluene. If these regulated products are reformulated, some more will likely become water-borne (minimal VOC) or use low-VOC solvents. Others could use solvents currently used in other formulations. Thus, manufacturers are already handling and working with solvents that have potential hazard impacts. Procedures to mitigate those hazards are already in place. Besides water, potential solvents used in reformulations of regulated products may include, but are not limited to the following chemicals:

Acetone

Acetone is a colorless, highly volatile liquid that has a fragrant, mint-like odor. It is a manufactured chemical that is also found naturally in the environment. It occurs naturally in plants, trees, volcanic gases, forest fires, and as a product of the breakdown of body fat. It is present in vehicle exhaust, tobacco smoke, and landfill sites. Acetone is used to make plastic, fibers, drugs, and other chemicals. It is also used to dissolve other substances. Industrial processes contribute more acetone to the environment than natural processes. Common uses for acetone are nail polish removers and for thinning paint. It has a high solvent strength greater than the other types of solvents, except for xylene, which has a similar solvent strength. Acetone is widely available at retail stores that sell solvents.

1. As a VOC: Acetone is currently listed as a Group I exempt VOC pursuant to SCAQMD Rule 102 – Definition of Terms, because it does not contribute appreciably to ozone formation. Acetone was originally “delisted” as a VOC by the U.S. EPA in 1995.
2. Flammability: Acetone has the lowest flash point, -4 degrees Fahrenheit (°F) (below freezing,) and is the most flammable of all the solvents considered in PAR 1168. Acetone, along with the majority of other solvents except for PCBTF, is rated “three” for flammability by the National Fire Protection Association (NFPA) which means that it is considered to be highly flammable. However, because of the ultra-low flash point, labeling requirements pursuant to the CPSC classifies acetone as “extremely flammable.”

PCBTF

PCBTF is a colorless liquid with a distinct aromatic odor. It is commonly used as an ink solvent in the printing industry and is sold under the brand name Oxsol 100. PCBTF had originally been used as an intermediate in the production of other compounds, but more recently has been marketed as a cleaning solvent and paint thinner. Because it is only manufactured in a limited number of countries overseas (e.g., China), it is considered to be expensive due to high shipping costs relative to other possible solvent replacements.

1. As a VOC: Exempt pursuant to U.S. EPA and listed as exempt in Rule 102, Group I.
2. Flammability: PCBTF, like mineral spirits, has a relatively high flash point at 109 °F (well above typical ambient temperatures) when compared to acetone, and as such, is one of the least flammable of all the solvents considered in PAR 1168. PCBTF, is the only solvent

that is rated “one” for flammability by the NFPA which means that it is considered to be slightly flammable or combustible if heated. Because of its high flash point range, labeling requirements pursuant to the CPSC classifies PCBTF as “combustible.”

The flammability and the associated hazards of each reformulated product is directly dependent upon which substitute solvents are used and which existing solvents are replaced. There are solvents that can be used to reformulate products that would comply with the lower VOC content limits contained in PAR 1168 but that may also be flammable, such as acetone or PCBTF, which is less flammable than acetone. Water, which is not flammable, could also be used to reformulate products. It is important to note that acetone, PCBTF and water are all currently used for manufacturing products that comply with the current version of Rule 1168. In any case, SCAQMD staff is unable to predict or forecast which chemicals would be selected by manufacturers as replacements solvents and how much of these chemicals would be used. Moreover, SCAQMD staff is also unable to predict or forecast the flammability of future reformulations. Therefore, in accordance with CEQA Guidelines Section 15145, an evaluation of the flammability of each future reformulated product is concluded to be speculative and will not be evaluated further in this analysis. PAR 1168 will also prohibit the use of Group II exempt compounds (except VMS), thus limiting and reducing the potential for products to be reformulated with toxic or stratospheric ozone-depleting chemicals.

It is anticipated that the current extensive and comprehensive regulatory requirements regarding flammable and otherwise hazardous materials will not need to be amended as a result of the proposed project since, in part, acetone is already widely distributed, sold and used. Based on the preceding information, it is also expected that implementing PAR 1168 is not expected to increase or create any new hazardous emissions which would adversely affect existing or proposed schools. In fact, to the extent that manufacturers, schools and other users replace the regulated products formulated with conventional VOC-containing solvents with reformulated products made with water, acetone, PCBTF or other minimal VOC chemicals, any existing hazardous emissions, including those near one-quarter mile of any schools, would be expected to remain unchanged or would be reduced with regard to hazardous characteristics.

Therefore, PAR 1168 is not expected to create a significant hazard to the public or environment through the routine transport, use, and disposal of hazardous materials; create a new significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment; emit new hazardous emissions, or handle hazardous or acutely hazardous materials, substances or waste within one quarter mile of an existing or proposed school; or significantly increase fire hazard in areas with flammable materials.

VIII. d) No Impact. Government Code Section 65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). Current regulated products are water-borne (minimal VOC) or use the following VOC-containing solvents in their formulations: acetone, methyl ethyl ketone (MEK), tetrahydrofuran (THF), PCBTF, xylene, cyclohexane, hexane, heptane, and toluene. While there are manufacturing facilities that are identified on lists of California Department of Toxics Substances Control hazardous waste facilities per Government Code Section 65962.5, PAR 1168 would not change how these facilities comply with their current hazardous waste handling practices. In fact, any facility that is subject to the requirements in Government Code Section 65962.5 would still be required need to comply with any regulations relating to that code section irrespective of whether PAR 1168 is

implemented. For this reason, PAR 1168 is not expected to have direct impacts on any facilities subject to the requirements in Government Code Section 65962.5

In general, the purpose of PAR 1168 is to achieve VOC emission reductions through reformulation of regulated products, which will ultimately improve air quality and reduce adverse human health impact related to poor air quality. Further, since products are to be reformulated with less hazardous components (e.g., chemicals that contain less VOCs, toxics and stratospheric ozone-depleters) than what is currently available, PAR 1168 may have the added beneficial effect of reducing the amount of unused regulated products that are disposed of as hazardous waste. Nonetheless, the use of PAR 1168 compliant regulated products is not expected to interfere with existing hazardous waste management programs since facilities handling hazardous waste would be expected to continue to manage any and all hazardous materials and hazardous waste, in accordance with applicable federal, state, and local rules and regulations. Therefore, compliance with PAR 1168 would not create a new significant hazard to the public or environment.

VIII. e) No Impact. It is expected compliance with PAR 1168 will result in the reformulation of regulated products. No construction activities are expected from the implementation of PAR 1168. Therefore, it is not expected to increase or create any new safety hazards to peoples working or residing in the vicinity of public/private airports.

VIII. f) No Impact. Health and Safety Code Section 25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

- Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
- Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
- Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
- Procedures to notify the necessary persons who can respond to an emergency within the facility;
- Details of evacuation plans and procedures;
- Descriptions of the emergency equipment available in the facility;
- Identification of local emergency medical assistance; and,
- Training (initial and refresher) programs for employees in:
 1. The safe handling of hazardous materials used by the business;
 2. Methods of working with the local public emergency response agencies;
 3. The use of emergency response resources under control of the handler;
 4. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area.

Compliance with PAR 1168 is expected through the reformulation of regulated products. Manufacturing practices and the usage of reformulated regulated products in accordance with PAR 1168 are not expected to change from existing manufacturing practices and usage of current compliant products. Further, PAR 1168 contains no requirements that would pertain to or alter any adopted emergency response plans or emergency evacuation plans that may be in place at facilities that manufacture or use the regulated products. Therefore, PAR 1168 is not expected to impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

VIII. g) No Impact. Compliance with PAR 1168 is expected through the reformulation of regulated products. The facilities affected by PAR 1168 are typically located in existing industrial, commercial or mixed land use areas and are not located near wildlands; therefore, PAR 1168 is not expected to be significant for exposing people or structures to risk of loss, injury or death involving wildland fires.

VIII. h) Less Than Significant Impact. The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations. Further, businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials to local fire departments. Local fire departments ensure that adequate permit conditions are in place to protect against the potential risk of upset. PAR 1168 would not change the existing requirements and permit conditions for the proper handling of flammable materials. Further, PAR 1168 does not contain any requirements that would prompt facility owners/operators to begin using new flammable materials. In addition, the National Fire Protection Association has special designations for deflagrations (e.g., explosion prevention) when using materials that may be explosive. Therefore, for liability reasons, it is unlikely that manufacturers would elect to reformulate products that may have explosive properties without first ensuring that there are explosion control systems and employee safety procedures and protections in place. Additional information pertaining to these types of protective measures is available in Chapter 8 of the *Industrial Ventilation, A Manual for Recommended Practice for Design*, 28th Edition, published by the American Conference of Governmental Industrial Hygienists, ©2013.

Conclusion

Based upon these considerations, significant adverse hazards and hazardous materials impacts are not expected from implementing PAR 1168. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| f) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| i) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.

- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

IX. a) & i) Less than Significant Impact. Lowering the VOC content limit of coatings will not be expected to have any direct or indirect impact on water quality because the reformulation of regulated products is not expected to change the current regulated product practices or alter the regulated product formulations to be more detrimental to water quality. Although compliance of PAR 1168 is expected to be through the reformulation of regulated products, PAR 1168 does not specify or dictate the type of solvent that need to be used or that water-borne technology must be used for reformulation. For any regulated products that are reformulated with water, water will also be needed for clean-up purposes, in lieu of solvent-based clean up materials. Similarly, wastewater from cleaning up water-borne reformulations could be disposed of into the public sewer system, in lieu of disposal as hazardous waste. It is important to note that PAR 1168 also contains a sell-through and use-through provision such that PAR 1168 will not create a new need to dispose of unused materials that do not comply with PAR 1168 upon adoption. Of course, when there is unused material under the current version of Rule 1168, contractors and businesses using regulated products either dispose of waste material according to the specifications in the manufacturer's product data sheets or recycle the waste material, such that unused materials are not disposed of via wastewater. Under PAR 1168, these practices would not be expected to change. In addition, SCAQMD rules that regulate VOC emissions, including Rule 1113 – Architectural Coatings¹⁴, Rule 1107 – Coating of Metal Parts and Products¹⁵, and Rule 1151 –

¹⁴ Final Environmental Assessment for Proposed Amended Rule 1113 – Architectural Coatings, February 2016.
<http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/par-1113-final-ea2.pdf>

¹⁵ Final Environmental Assessment for Proposed Amended Rule 1107 – Coating of Metal Parts and Products, October 2005.
<http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2005/final-ea-for-proposed-amended-rule-1107.pdf>

Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations¹⁶, were previously amended to lower VOC content limits via reformulation of solvent-based coatings to lower VOC coatings or water-borne coatings was anticipated and occurred; these amendments and the corresponding CEQA documents analyzing the effects on water quality did not result in significant adverse impacts to water quality. In practice, the coatings subject to these rules were successfully reformulated with water-borne technology and no adverse effects to water quality, wastewater treatment, or wastewater treatment capacity occurred during implementation. For these reasons, reformulation of regulated products as a result of implementing PAR 1168 would not be expected to violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality. Further, implementation of PAR 1168 would also not be expected to result in a determination by the wastewater treatment provider which serves or may serve the manufacturers and users of the reformulated regulated products that there is not adequate existing capacity to serve any additional wastewater that may be generated from using water for cleaning up.

IX. b) Less than Significant Impact. SCAQMD staff is unable to predict or forecast whether any manufacturers will have access to groundwater and whether the groundwater will be of a sufficient quality or supply to be used for reformulation of regulated products. Nonetheless, although very unlikely, if a manufacturer has a well on its property, groundwater may be used for reformulating regulated products provided that the property owner has groundwater pumping rights, a sufficient supply, and the groundwater is of a suitable quality for manufacturing. In general, the quality of groundwater is typically not suitable for usage in the manufacturing of regulated products, unless it has been treated to meet the quality assurance and quality control of strict manufacturing standards. Manufacturers of regulated products typically use potable water water-borne formulations of regulated products. In addition, as explained in Section IX. a), for past rule amendments that have relied on similar reformulation technology, the water demand to reformulate regulated products has not resulted in a significant adverse impact on groundwater supplies. Thus, PAR 1168 is not expected to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

IX. c) & d) No Impact. The manufacturing and application of regulated products that are reformulated pursuant to PAR 1168 is expected to take place at existing locations and settings. As with currently regulated products under existing Rule 1168, the manufacturing of reformulated regulated products in accordance with PAR 1168 will continue to occur at existing facilities whose process lines operate within enclosed buildings. Similarly, the application and use of reformulated products are expected to be used in the same manner as the currently regulated products under existing Rule 1168 (e.g., inside existing buildings). Further, as explained in Section IX. a), contractors and businesses using regulated products either dispose of waste material according to the specifications in the manufacturer's product data sheets or recycle the waste material, such that unused materials are not improperly disposed of.

For these reasons, implementation of PAR 1168 would not be expected to: 1) substantially alter the existing drainage pattern of the site or area where reformulated regulated products are

¹⁶ Final Environmental Assessment for: Proposed Amended Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations, November 2005.

<http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2005/final-ea-par1151.doc>

manufactured or used, including through alteration of the course of a stream or river, or 2) substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site. In addition, PAR 1168 would also not be expected to create new or contribute to existing runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

IX. e) & f) No Impact. As explained in Section IV. e) and f), PAR 1168 would not require the construction of any new or modified structures or new development in undeveloped areas. Compliance with PAR 1168 is expected to be through the reformulation of regulated products to meet VOC content limits. As with currently regulated products under existing Rule 1168, the manufacturing of reformulated regulated products in accordance with PAR 1168 will continue to occur at existing facilities whose process lines operate within enclosed buildings. Similarly, the application and use of reformulated products are expected to be used in the same manner as the currently regulated products under existing Rule 1168 (e.g., inside existing buildings). Therefore, PAR 1168 would not be expected to cause placing housing or structures to be placed within 100-year flood hazard areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows. Similarly, PAR 1168 would also not be expected to expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow because any flood event of this nature would be part of the existing setting or topography that is present for reasons unrelated to PAR 1168.

IX. g) No Impact. As explained previously, since compliance with PAR 1168 is expected to be through the reformulation of regulated products to meet VOC content limits, PAR 1168 would not require the construction of any new or modified structures or new development. Thus, PAR 1168 would also not require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or the expansion of existing facilities.

IX. h) Less Than Significant Impact. While compliance with PAR 1168 is expected to be through the reformulation of regulated products to meet VOC content limits, it is unknown at this time how many types of regulated products manufacturers will elect to reformulate with water and how much water will be needed to do so. However, as explained in Section IX. a) and i), CEQA evaluations were conducted for previous amendments to other VOC-based rules (e.g., Rules 1107, 1113, and 1151) which also proposed to lower VOC content limits via reformulation similar to what is expected to occur with PAR 1168. The water demand analyses in these CEQA documents concluded that the existing water supplies were sufficiently available for the reformulation of regulated products without the need for new or expanded entitlements. For this reason, the reformulation of regulated products with water as part of implementing PAR 1168 would also be expected to have sufficient water supplies available from existing entitlements and resources with requiring any new or expanded entitlements.

Conclusion

Based upon these considerations, significant adverse hydrology and water quality impacts are not expected from implementing PAR 1168. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer’s building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

X. a)& b) No Impact. Since compliance with PAR 1168 is expected to be through the reformulation of regulated products to meet VOC content limits, PAR 1168 would not require the construction of any new or modified structures or new development in undeveloped areas. Therefore, implementation of PAR 1168 would not be expected to result in physically dividing an established community.

Further, land use and other planning considerations are determined by local governments and there is no land use agency that would have jurisdiction over PAR 1168. For this reason, PAR 1168 would not require alterations to or conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Conclusion

Based upon these considerations, significant adverse land use and planning impacts are not expected from implementing PAR 1168. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer’s building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

XI. a) & b) No Impact. There are no provisions in PAR 1168 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since the proposed project is likely only to result in the reformulation of regulated products and not require new construction, PAR 1168 would have no effects on the use of important minerals, such as those described above. Therefore, no new demand on mineral resources is expected to occur and significant adverse mineral resources impacts from implementing PAR 1168 are not anticipated.

Conclusion

Based upon these considerations, significant adverse mineral resource impacts are not expected from implementing PAR 1168. Since no significant mineral resource impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC

content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

XII. a) No Impact. PAR 1168 is not expected to alter the manufacturing, distribution, or application of regulated products in any substantial way that would alter existing noise profile at the manufacturing facilities. The manufacture of PAR 1168 compliant regulated products is not expected to require physical modifications that would require additional noise-causing equipment at existing facilities, because it is anticipated that the same equipment used to manufacturer and apply currently available regulated products would continue to be used and applied. Further, the use of regulated products at the consumer and institutional level is typically not a noise intensive activity. Therefore, the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of the existing facilities or other sites where these products are distributed, sold, or used to above a level of significant in response to implementing PAR 1168. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health at distribution and retail locations.

XII. b) No Impact. PAR 1168 is not anticipated to expose persons to or generate excessive groundborne vibration or groundborne noise levels since no construction activities are expected to occur from the expected reformulation of regulated products as a result of lowering the VOC content limits in PAR 1168.

XII. c) No Impact. No increase in periodic or temporary ambient noise levels in the vicinity of affected facilities above levels existing prior to PAR 1168 is anticipated because the proposed project would not require construction-related activities nor would it change the existing activities currently performed by persons who utilize regulated products. See also the response to Section XII. a).

XII. d) No Impact. Implementation of PAR 1168 would not affect existing practices by persons who use and apply PAR 1168 regulated products. Even if affected sites where PAR 1168 compliant regulated products are used are located within two miles of a public airport or private airstrip, no new noise impacts would be expected since the application of regulated products is not typically a noise intensive activity. Thus, PAR 1168 is not expected to expose persons residing or working within two miles of a public airport or private airstrip to excessive noise levels.

Conclusion

Based upon these considerations, significant adverse noise impacts are not expected from the implementing PAR 1168. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING.				
Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer’s building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

XIII. a) No Impact. PAR 1168 is not anticipated to generate any significant effects, either direct or indirect, on the population or population distribution within SCAQMD’s jurisdiction as no additional workers are anticipated to be required to comply with PAR 1168. No additional workers

would be required to manufacture PAR 1168-compliant regulated products because the same equipment that is currently used to manufacture regulated products under the current version of Rule 1168 would continue to be used to manufacture reformulated products under PAR 1168. In addition, even though regulated products are expected to be reformulated, the usage amount of the reformulated regulated products would not be expected to substantially change. Thus, no additional workers are expected to be needed to apply the reformulated regulated products. Human population within the jurisdiction of the SCAQMD is expected to grow regardless of implementing PAR 1168. As such, PAR 1168 would not result in changes in population densities or induce significant growth in population.

XIII. b) No Impact. PAR 1168 would likely only result in reformulation of regulated products. Aside from altering the chemical components of the regulated products, PAR 1168 is not expected to substantially alter existing operations where the reformulated regulated products may be manufactured or used. Consequently, PAR 1168 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of persons or housing elsewhere in the District.

Conclusion

Based upon these considerations, significant adverse population and housing impacts are not expected from implementing PAR 1168. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer’s building(s). Since, VOC emissions will be reduced through reformulation, no new

or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

XIV. a) Less Than Significant Impact. A potential adverse impacts to fire departments could occur if there is an increase the potential for an accidental release of a hazardous or flammable material that is used in reformulating compliant regulated products. Under this circumstance, fire departments would have to respond more frequently to accidental release incidences. Another potential adverse impact to fire departments could occur if there is an increase in the amount of hazardous materials or flammable materials stored at affected facilities, fire departments may have to conduct additional safety inspections. However, in order to comply with PAR 1168, manufacturers are expected to reformulate their regulated products with chemicals that contain less VOCs, less or no toxics, and no stratospheric ozone-depleting compounds. PAR 1168 does not include any provisions that would directly or indirectly dictate the use of any specific regulated product formulations with the exception of prohibiting Group II exempt solvents (except VMS), which are, or are potentially toxic or ozone-depleting compounds. Manufacturers will have the flexibility to choose the product formulation that best suits their needs.

Current regulated products are water-borne (minimal VOC) or use the following VOC-containing solvents, which are flammable, in their formulations: acetone, methyl ethyl ketone (MEK), tetrahydrofuran (THF), PCBTF, xylene, cyclohexane, hexane, heptane, and toluene. If these regulated products are reformulated, some more will likely become water-borne (minimal VOC) or use low-VOC solvents and the existing fire hazard for the manufacturers as well as the end users would be expected to eventually decrease as reformulated products become available.

In 2013, SCAQMD staff contacted the California Fire Marshall's Office and county fire departments to inquire about fire statistics and it turns out that incidences of fires are not indexed with enough detail to determine which fires were caused by coatings, adhesives, sealants, or solvents. Therefore, it could not be determined if the number fire incidents have increased because of the reformulations to lower VOC-containing products for other existing SCAQMD VOC rules (e.g., Rules 1107, 1113 and 1151). As stated by a San Bernardino County Fire employee¹⁷, only two fires between 2000 and 2013 were determined to be caused by architectural coating operations. In both cases, the fires were from the combustion of cleaning rags (which are subject to Rule 1171 – Solvent Cleaning Operations, and not architectural coating operations (which are subject to Rule 1113). Therefore, based on this sampling of data, fires that can be attributed to regulated products that are reformulated pursuant to the lower VOC content requirements in PAR 1168 would be rare. Thus, fire departments would not be expected to have to respond more frequently to accidental releases of chemicals used by manufacturers in the reformulation process or accidental releases of the reformulated regulated products that are used by consumers.

Therefore, PAR 1168 is not expected to increase the amount of hazardous materials or flammable materials stored at affected facilities, which would require significant additional safety inspections. PAR 1168 is not expected to generate significant adverse impacts to fire departments.

XIV. b) Less Than Significant Impact. Local police departments are also first responders to emergency situations such as fires, for example, to cordon off the area and provide crowd control. However, as explained in Section XIV. a), implementing PAR 1168 would not be expected to increase the number of fires compared to the existing setting. As a result, no significant adverse

¹⁷ Telephone conversation with San Bernardino County Fire Department Public Information Unit on December 6, 2013.

impacts to local police departments would also be expected because no substantial increases in fire emergencies are anticipated.

XIV. c) & d) No Impact. As explained in Section XIII. a), PAR 1168 is not anticipated to generate any significant effects, either direct or indirect, on the population or population distribution within SCAQMD's jurisdiction as no additional workers are anticipated to be required to comply with PAR 1168. No additional workers would be required to manufacture PAR 1168-compliant regulated products because the same equipment that is currently used to manufacture regulated products under the current version of Rule 1168 would continue to be used to manufacture reformulated products under PAR 1168. In addition, even though regulated products are expected to be reformulated, the usage amount of the reformulated regulated products would not be expected to substantially change. As such, no additional workers are expected to be needed to apply the reformulated regulated products. Because PAR 1168 is not expected to induce population growth in any way, and because the local labor pool (e.g., workforce) using regulated products would remain the same since PAR 1168 would not trigger changes to current usage practices, no additional schools would need to be constructed as a result of implementing PAR 1168. Therefore, since no increase in local population would be anticipated as a result of implementing PAR 1168, there would be no corresponding impacts to local schools and there would be no corresponding need for new or physically altered public facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Therefore, no impacts would be expected to schools or other public facilities.

Conclusion

Based upon these considerations, significant adverse public services impacts are not expected from implementing PAR 1168. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer’s building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

XV. a) & b) No Impact. As discussed in Section X - Land Use and Planning, there are no provisions in PAR 1168 that would affect land use plans, policies, or regulations. Land use and

other planning considerations are determined by local governments. No land use or planning requirements would be altered by the adoption of PAR 1168, which only affects the VOC content of regulated products. Further, PAR 1168 would not affect population growth or distribution within the SCAQMD's jurisdiction (see Section XIII – Population and Housing), in ways that could increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Conclusion

Based upon these considerations, significant adverse recreation impacts are not expected from implementing PAR 1168. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID AND HAZARDOUS WASTE. Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on solid and hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer’s building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

XVI. a) & b) No Impact. In general, the purpose of PAR 1168 is to achieve VOC emission reductions through reformulation of regulated products, which will ultimately improve air quality and reduce adverse human health impacts related to poor air quality. Further, since products are to be reformulated with less hazardous components (e.g., chemicals that contain less VOCs, toxics and stratospheric ozone-depleters) than what is currently available, PAR 1168 may have the added beneficial effect of reducing the amount of unused regulated products that are disposed of as hazardous waste. It is important to note that PAR 1168 also contains a three-year sell-through to allow manufacturers and suppliers to deplete regulated products in the warehouse or on the shelf

and allows users to use up any remaining product rather than disposing of them. The sell-through and use-through effective dates should accommodate the typical three year shelf life of these regulated products. Of course, when there is unused material under the current version of Rule 1168, contractors and businesses using regulated products either dispose of waste material according to the specifications in the manufacturer's product data sheets or recycle the waste material. Under PAR 1168, these disposal practices and the total amount of materials (hazardous and non-hazardous) disposed of would not be expected to change. For these reasons, implementation of PAR 1168 would not be expected to create a new need to dispose of unused materials that do not comply with PAR 1168 upon adoption.

Based upon these considerations, PAR 1168 is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing PAR 1168 is not expected to interfere with any affected distributors' or retailers' ability to comply with applicable local, state, or federal waste disposal regulations.

Conclusion

Based upon these considerations, significant adverse solid and hazardous waste impacts are not expected from implementing PAR 1168. Since no significant solid and hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION AND TRAFFIC.				
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on transportation and traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees.
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day.
- Increase customer traffic by more than 700 visits per day.

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

XVII. a) & b) No Impact. In order to comply with PAR 1168, manufacturers are expected to reformulate their regulated products with chemicals that contain less VOCs, less or no toxics, and

no stratospheric ozone-depleting compounds. In order to accomplish this task, the supply of non-compliant chemicals used to make current regulated products will be replaced with PAR 1168 compliant chemicals. Further, the volumes of reformulated regulated products that are produced by manufacturers to comply with PAR 1168 will eventually replace the existing supply of regulated products currently available on the market. Thus, the increased amounts of replacement chemicals needed to reformulate products will be offset by a decrease in the amounts of non-compliant chemicals needed such that no increase is expected in the overall volumes of materials to be used in manufacturing or the amount of reformulated products to be made. There are currently manufactured regulated products that are compliant within SCAQMD's jurisdiction that are shipped and transported throughout the country and other compliant products that are manufactured outside the SCAQMD's jurisdiction are trucked in. It would not be expected that the reformulation of regulated products would alter any future deliveries or change in the circulation of regulated products. Thus, the current level of transportation demands related to transporting substitute chemicals or new formulations of materials is also not expected to increase. PAR 1168 is not expected to affect existing uses and applications of regulated products that would change or cause additional worker trips to distribution or retail facilities or increase transportation demands or services. Therefore, with no substantial increase in operational-related trips anticipated, implementing PAR 1168 would not be expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities or other sites that use these products.

XVII. c) No Impact. PAR 1168 will result in the reformulation of regulated products by manufacturers substituting VOC-containing chemicals with other replacements that contain less VOCs, toxics and stratospheric ozone-depleters. Since product reformulation would not require the installation of new or the modification of existing manufacturing equipment, air pollution control equipment or any structures at a height that would interfere with an airport, no changes in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks, would be expected to occur as a result of complying with PAR 1168. In addition, PAR 1168 would not affect in any way air traffic in the region, because regulated products are typically shipped via ground transportation and not by air. Therefore, implementation of PAR 1168 is not expected to adversely affect traffic patterns.

XVII. d) & e) No Impact. As explained in Section XVII c) above, regulated products are typically shipped via ground transportation (e.g., via roadways) and the shipping of reformulated regulated products made in response to PAR 1168 would also be shipped via ground transportation. As explained in Section XVII a) and b) above, the current level of transportation demands related to transporting substitute chemicals necessary to manufacturer reformulations or the final reformulations themselves is also not expected to increase. Therefore, the existing roadways should be sufficient to handle the transportation needs associated with implementing PAR 1168. Thus, the manufacture and use of compliant regulated products would not require the construction of new or modified structures or roadways. Consequently, implementing the proposed project will not create roadway hazards or incompatible roadway uses or alter the existing long-term circulation patterns. Thus, no long-term impacts on the traffic circulation system are expected to occur during implementation of PAR 1168.

Further, impacts to existing emergency access at the manufacturing facilities would also not be affected because PAR 1168 does not contain any requirements specific to emergency access points and each manufacturer would be expected to continue to maintain their existing emergency access. As a result, PAR 1168 is not expected to adversely impact emergency access.

XVII. f) No Impact. No changes to the parking capacity at or in the vicinity of the manufacturing facilities are expected with adopting PAR 1168. Adoption of PAR 1168 would not change existing operations, so no new workers at the manufacturing facilities would be expected. Since implementation of PAR 1168 is not expected to require additional workers, no traffic impacts are expected to occur and consequently, additional parking capacity will not be required. Therefore, PAR 1168 is not expected to adversely impact on- or off-site parking capacity. PAR 1168 has no provisions that would conflict with alternative transportation, such as bus turnouts, bicycle racks, etcetera.

Conclusion

Based upon these considerations, significant adverse transportation and traffic impacts are not expected from implementing PAR 1168. Since no significant transportation and traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

PAR 1168 will reduce VOC, toxic air contaminant emissions, and stratospheric ozone-depleting compounds from regulated products by lowering VOC content limits of certain categories of adhesives and sealants. PAR 1168 affects any person who uses, sells, stores, supplies, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers but includes certain exceptions. For some products, compliance is expected to occur through the reformulation of the regulated product, which may potentially create secondary adverse environmental impacts. Currently, many products are solvent-based. Based on past coatings rules requiring reformulation, manufacturers will likely reformulate their products with water-borne technology or replace conventional solvents with VOC exempt solvents to meet the lower VOC content limits. During reformulation, manufacturers will need to ensure products do not contain any SCAQMD Rule 102 Group II exempt compounds as replacements for any solvent greater than 0.1 percent by weight. Thus manufacturers will replace conventional solvents with less or non-toxic solvents. Further, PAR 1168 will also contain a requirement that would prevent

manufacturers from reformulating regulated products with stratospheric ozone-depleting compounds. Any changes to the manufacturing process would occur inside each affected existing manufacturer's building(s). Since, VOC emissions will be reduced through reformulation, no new or additional construction of air pollution control equipment is expected based on the implementation of PAR 1168.

XVIII. a) No Impact. As explained in Section IV - Biological Resources, PAR 1168 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the proposed project would not require any new construction and/or operational activities that differ from existing settings. The regulated products can be used at existing settings and have been already greatly disturbed and as such, would not typically support any species of concern or the habitat on which they rely. For these reasons, PAR 1168 is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past.

XVIII. b) Less Than Significant Impact. Based on the foregoing analyses, PAR 1168 would not result in significant adverse project-specific environmental impacts. Potential adverse impacts from implementing PAR 1168 would not be "cumulatively considerable" as defined by CEQA Guidelines Section 15064(h)(1) for any environmental topic because there are no, or only minor incremental project-specific impacts that were concluded to be less than significant. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable. SCAQMD cumulative significant thresholds are the same as project-specific significance thresholds.

Therefore, there is no potential for significant adverse cumulative or cumulatively considerable impacts to be generated by PAR 1168 for any environmental topic.

XVIII. c) Less Than Significant Impact. Based on the foregoing analyses, PAR 1168 is not expected to cause adverse effects on human beings for any environmental topic, either directly or indirectly because: 1) the air quality and GHG impacts were determined to be less than the significance thresholds as analyzed in Section III – Air Quality and Greenhouse Gases; 2) the hazards and hazardous materials impacts were determined to be less than significant as analyzed in Section VIII – Hazards and Hazardous Materials; 3) the increased water usage and wastewater was determined to be less than significant as analyzed in Section IX – Hydrology and Water Quality; 4) public services such as fire protection and police protection were determined to be less than the significance thresholds as analyzed in Section XIV – Public Services. In addition, the analysis concluded that there would be no significant environmental impacts for the remaining environmental impact topic areas: aesthetics, agriculture and forestry resources, biological resources, cultural resources, energy, geology and soils, land use and planning, mineral resources, noise, population and housing, recreation, solid and hazardous waste, and transportation and traffic.

Conclusion

As previously discussed in environmental topics I through XVIII, the proposed project has no potential to cause significant adverse environmental effects. Since no mitigation measures are necessary or required.

APPENDICES

Appendix A: Proposed Rule 1168 – Adhesive and Sealant Applications

Appendix B: Comment Letters Received on the Draft EA and Responses to Comments

APPENDIX A

PROPOSED AMENDED RULE 1168 – ADHESIVE AND SEALANT APPLICATIONS

In order to save space and avoid repetition, please refer to the latest version of Proposed Amended Rule 1168 located elsewhere in the Governing Board Package. The version of Proposed Amended Rule 1168 that was circulated with the Draft EA and released on July 21, 2017 for a 30-day public review and comment period ending on September 15, 2017 was identified as “Proposed Amended Rule 1168 (Version 8) - July 21, 2017”.

Original hard copies of the Draft EA, which include the draft version of the proposed amended rule listed above, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by contacting Fabian Wesson, Public Advisor at the SCAQMD’s Public Information Center by phone at (909) 396-2039 or by email at PICrequests@aqmd.gov.

APPENDIX B

Comment Letters Received on the Draft EA and Responses to Comments

Comment Letter #1: Rita M. Loof / RadTech International

**Comment Letter #2: Severin Martinez for Dianna Watson / California
Department of Transportation (Caltrans)**

Comment Letter #1



August 31, 2017

Mr. Michael Krause
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Re: Public comments to Proposed Amended Rule 1168—Adhesives

Dear Mike:

RadTech International hereby reiterates the comments we have made in writing and during the public consultation process on proposed amended rule (PAR) 1168. We were thankful that staff expressed a willingness to make changes to the proposal presented at the most recent public consultation meeting. However, we are disheartened that staff's position regarding our two main issues (1) Inclusion of test method for enforcement purposes and (2) Exemption from the overly prescriptive recordkeeping requirements, remains unchanged.

Inclusion of Test Methods for UV/EB/LED

RadTech commends the district for including a definition for energy curable materials in Section (b)(28) of the proposed rule and providing clarification regarding test methodology. However, we cannot support the concept of creating two different mechanisms (one for "information-only" and one for enforcement) to test materials. RadTech urges the inclusion of ASTM D7767-11 in both the Definition and the Test Method section of the rule. ASTM D7767-11 is the best tool available today to measure VOC emissions from UV/EB thin film materials. We had previously reached consensus with the district regarding the inapplicability of Method 24 and SCAQMD Method 313 to UV/EB materials. Thus, we would suggest that an additional sub-section (K) be added to Section (e)(1) to read as follows:

(K) The VOC content of Energy Curable Adhesives and Sealants shall be determined by ASTM Test Method D7767-11- Standard Test Method to Measure Volatiles from Radiation Curable Acrylate Monomers, Oligomers, and Blends and Thin Coatings Made from Them.

Additionally, the rule includes a method for "thick film" adhesives which is not applicable to UV/EB/LED materials. The following language would ensure clarity:

(L) The VOC content of Non-Thin Film Energy Curable Adhesives and Sealants shall be determined by ASTM Test Method D5403-93- Standard Test Methods for Volatile Content of Radiation Curable Materials.

Comment Letter #1 (cont.)

Staff has stated that the ASTM method is not a “direct” method but, the GCMS alternative is also an indirect method. It does not allow VOC’s from a cured coating to be measured at the end use location and using the end use cure conditions (which includes backing, geometry, source, line speed, environment (air or nitrogen), etc.). The GCMS method has a level of uncertainty in the correlation to real emissions in use. As per a request from district staff in 2013, we have provided you with a procedure to calculate VOC’s from a fully formulated product using ASTM D7767-11.

Exemption from Reporting & Recordkeeping

We urge the district to provide incentives to companies who reduce their emissions by exempting UV/EB/LED materials that exceed the rule requirements. We are supportive of the concept of reducing recordkeeping burdens for those materials and believe those operations should not be subjected to the same labeling and recordkeeping requirements as their higher emitting counterparts. We request that UV/EB/LED materials containing 50 grams per liter of VOC or less, be exempted from the Administrative Requirements in Section (f)(1) and the Reporting Requirements in Section (f)(2) of PAR 1168. In 2021, the lowest limit in the rule will be 20 grams per liter and as such, we would be open to lowering the limit to 20 grams per liter in 2021 to ensure consistency. We are especially concerned with the consequences of this proposal on the medical device industry as it may hamper the manufacture of life saving medical products.

1-1

We have seen how overly prescriptive regulations have had the unintended consequences of driving business out of the basin. As a result, emissions from goods movement have increased as products are manufactured elsewhere and either shipped in or trucked into the basin. Thus, there is a correlation between the exodus of manufacturing from the Basin and emissions associated with goods movement. We ask that you analyze the emissions impact of goods movement as part of the CEQA process in the rule.

Guidance Document

We were recently informed that staff intends to provide additional clarifications on rule language interpretation, after rule adoption via a “Guidance Document”. Although well intentioned, we are not supportive of this concept because there is no assurance that the Board will be involved. For lack of a better term, this would amount to “underground” rulemaking. If a rule needs a guidance document to interpret it after the board has adopted it, the rule itself is not sufficiently clear and thus does not meet the requirements for Clarity in the Health and Safety Code.

We appreciate your attention to these issues and look forward to a productive rulemaking effort.

Sincerely

Rita M. Loof
Director, Environmental Affairs

Cc: Wayne Nastri, Nicole Silva, Heather Farr, Barbara Radlein

Response to Comment Letter #1: - RadTech International

Comment Letter #1 primarily consists of comments pertaining to the proposed rule language in PAR 1168, except for the bracketed language as shown above relating to CEQA. Responses to the remainder of the comment letter directly related to proposed rule language in PAR 1168 can be found in the staff report under the section Comments and Responses, Comment Letter No. 7.

Response 1-1

Manufacturers of products subject to Rule 1168 exist within SCAQMD's jurisdiction, outside of SCAQMD's jurisdiction but within California, and outside of California, and there are no provisions in PAR 1168 that would require these manufacturers to relocate. While manufacturers outside of SCAQMD's jurisdiction are not subject to SCAQMD's Rules and Regulations per se, the products they manufacture and ship into SCAQMD's jurisdiction for distribution and sale, are subject to the requirements, including recordkeeping and reporting, in current Rule 1168 and these products will continue to be subject to PAR 1168. For these reasons, the reporting and recordkeeping requirements affect manufacturers of regulated products nationwide and not just within the SCAQMD's jurisdiction. Manufacturers that are subject to the current version of Rule 1168 already keep records that contain purchasing and sales data, for example, and submit periodic reports to SCAQMD. Further, the additional recordkeeping and reporting requirements contained in PAR 1168 would not change how the goods are currently moved into the Basin, for those products that are already manufactured outside of the Basin. Goods manufactured elsewhere, including those manufactured in other countries, would continue to be required to report sales data if they manufacture regulated products that are delivered and distributed or sold within the SCAQMD's jurisdiction. While PAR 1168 proposes to change the VOC limits of certain products which will cause products to be reformulated, the shipment of the reformulated products will replace the previous products that are currently shipped. Thus, no changes to shipping methods and routes would be expected to change as a result of product reformulation.

Finally, SCAQMD staff has not received any comments from affected manufacturers located within SCAQMD's jurisdiction indicating that they would relocate in response to the recordkeeping and reporting requirements contained in PAR 1168. Conversely, SCAQMD staff has also not received any comments from affected manufacturers located outside SCAQMD's jurisdiction that PAR 1168 would cause them to relocate their facilities to within SCAQMD's jurisdiction.

For these reasons, the emissions from goods movement of products reformulated in accordance with PAR 1168 would not be expected to change from the existing setting and no further analysis is warranted under CEQA.

Comment Letter #2

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0067
FAX (213) 897-1337
www.dot.ca.gov



*Making Conservation
a California Way of Life.*

September 12, 2017

Ms. Barbara Radlein
South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765

RE: Proposed Amended Rule 1168 –
Adhesive and Sealant Application
Vic: Various PM: Various
GTS# 07-ALL-2017-00033
SCH# 2017081031

Dear Ms. Radlein,

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project would further reduce emissions of volatile organic compounds (VOCs), toxic air contaminants, and stratospheric ozone-depleting compounds from adhesives, adhesive primers, sealants and sealant primers.

Upon reviewing the Draft Environmental Assessment, Caltrans has the following comments:

We do not expect project approval to result in direct adverse impacts to existing State transportation facilities.

If you have any questions or concerns regarding these comments, please contact project coordinator, Severin Martinez at (213) 897-0067 or severin.martinez@dot.ca.gov and refer to GTS# 07-ALL-2017-00033.

Sincerely,

DIANNA WATSON *for*
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Response to Comment Letter #2: - Department of Transportation (Caltrans)

Thank you for your comment. No further response is required under CEQA.

ATTACHMENT I

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Socioeconomic Assessment for Proposed Amended Rule 1168 – ADHESIVE AND SEALANT APPLICATIONS

September 2017

Deputy Executive Officer

Planning, Rule Development, and Area Sources
Philip M. Fine, Ph.D.

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Planning, Rule Development, and Area Sources
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JANICE RUTHERFORD
Supervisor, Second District
County of San Bernardino

EXECUTIVE OFFICER:
WAYNE NASTRI

EXECUTIVE SUMMARY

A socioeconomic analysis was conducted to assess the potential impacts of Proposed Amended Rule 1168 –Adhesive and Sealant Applications on the four-county region of Los Angeles, Orange, Riverside and San Bernardino. A summary of the analysis and findings is presented below.

<p>Elements of Proposed Amendments</p>	<p>Proposed Amendments to Rule 1168 (PAR 1168) would include revisions of Volatile Organic Compound (VOC) content limits for various categories of regulated product; reporting and labeling requirements; clarification of rule language and applicability; language that distinguishes whether products are regulated by the California Air Resources Board (CARB) Consumer Product Regulation (CPR) or Rule 1168; harmonization of language and requirements with state and federal regulations affecting the same type of products; removal, modification, or addition of certain exemptions; and prohibition of Group II exempt compounds as defined in Rule 102 – Definition of Terms. The proposed amendments would reduce VOC emissions by 1.4 tons per day by 2023.</p>
<p>Affected Facilities and Industries</p>	<p>The proposed amendments to Rule 1168 would affect approximately 60 adhesive and sealant materials manufacturers, of which eight are currently manufacturing the products in the four-county area within SCAQMD’s jurisdiction. The affected facilities belong to the industries of Asphalt Shingle and Coating Materials (NAICS 324122) and Adhesive Manufacturing (NAICS 325520).</p> <p>PAR 1168 would also affect six Big Box retailers, and approximately 40 distributors located in and outside of the SCAQMD. Big Box retailers belong to Home Centers (NAICS 444110) in the retail sector and adhesive and sealant distributors belong to Paint, Varnish, and Supplies Merchant Wholesalers (NAICS 424950). Lastly, PAR 1168 would potentially affect intermediate industrial users and end-users (general public) using products that are PAR 1168 applicable and not regulated by CARB’s CPR.</p>
<p>Assumptions of Analysis</p>	<p>The additional compliance cost of PAR 1168 is comprised of the reformulation cost and the reporting cost. The reformulation cost is estimated by multiplying the reported number of gallons sold into SCAQMD jurisdiction for each category, as reported in the 2013 survey, by the difference in price per gallon of products that are already compliant <i>vs.</i> products that would become non-compliant due to PAR 1168. The reporting cost is estimated by multiplying the number of staff hours required to prepare reports by an average cost per hour of staff time.</p> <p>Two scenarios were created to assess the cost impacts of PAR 1168. <i>Scenario A</i> places direct cost impacts of the reformulation and reporting requirements on adhesive and sealant manufacturers, Big Box retailers, and distribution centers. <i>Scenario B</i> places the direct cost impacts on the end-users who would eventually purchase the currently more expensive products that would remain compliant if PAR 1168 is adopted.</p>

<p>Compliance Costs</p>	<p>The reformulation cost is estimated to range from \$2 to \$4 per gallon for the majority of affected product categories. Overall, the average total annual cost of the proposed amendments is estimated to be \$6.34 million of which \$0.04 million is estimated for reporting costs and the remaining for reformulation costs.</p>
<p>Jobs and Other Socioeconomic Impacts</p>	<p>The proposed amendments are projected to result in minimal socioeconomic impacts. Overall, one job could be forgone annually, on average, between 2019 and 2035 in the local economy under Scenario A, which is 0.00001% of the baseline jobs in the four-county area. Under Scenario B, four jobs could be forgone annually, on average, between 2019 and 2035 in the local economy, which is 0.00004% of the baseline jobs in the four-county area. Similarly, there would be few impacts on the relative costs of production and the delivery prices across the industry sectors in the regional economy resulting from the implementation of the proposed amendments.</p>

INTRODUCTION

The proposed amendments to Rule 1168 would implement, in part, the 2016 Air Quality Management Plan Control Measure CTS-01 – Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants, which targets a 1 ton per day (tpd) Volatile Organic Compound (VOC) emission reduction by 2023. The amendments include: revisions of VOC content limits for various categories of regulated product; reporting and labeling requirements; clarification of rule language and applicability; language that distinguishes when products are regulated by the California Air Resources Board (CARB) Consumer Products Regulation (CPR) or Rule 1168; harmonization of language and requirements with state and federal regulations affecting the same type of products; removal, modification, or addition of certain exemptions; and prohibition of Group II exempt compounds as defined in Rule 102 – Definition of Terms. The proposed amendments would reduce VOC emissions by 1.4 tons per day by 2023.

LEGISLATIVE MANDATES

The socioeconomic assessments at the SCAQMD have evolved over time to reflect the benefits and costs of regulations. The legal mandates directly related to the assessment of the proposed rule include the SCAQMD Governing Board resolutions and various sections of the California Health & Safety Code (H&SC).

SCAQMD Governing Board Resolutions

On March 17, 1989 the SCAQMD Governing Board adopted a resolution that calls for an economic analysis of regulatory impacts that includes the following elements:

- Affected industries
- Range of probable costs
- Cost effectiveness of control alternatives
- Public health benefits

Health & Safety Code Requirements

The state legislature adopted legislation that reinforces and expands the Governing Board resolutions for socioeconomic assessments. H&SC Sections 40440.8(a) and (b), which became effective on January 1, 1991, require that a socioeconomic analysis be prepared for any proposed rule or rule amendment that "will significantly affect air quality or emissions limitations." Specifically, the scope of the analysis should include:

- Type of affected industries
- Impact on employment and the regional economy
- Range of probable costs, including those to industry
- Availability and cost effectiveness of alternatives to the rule

- Emission reduction potential
- Necessity of adopting, amending or repealing the rule in order to attain state and federal ambient air quality standards

H&SC Section 40728.5, which became effective on January 1, 1992, requires SCAQMD's Governing Board to actively consider the socioeconomic impacts of regulations and make a good faith effort to minimize adverse socioeconomic impacts. It also requires the socioeconomic impact assessments to additionally:

- Identify the type of industries or business affected, including small business

Finally, H&SC Section 40920.6, which became effective on January 1, 1996, requires that incremental cost effectiveness be performed for a proposed rule or amendment that imposes Best Available Retrofit Control Technology or "all feasible measures" requirements relating to ozone, carbon monoxide (CO), oxides of sulfur (SO_x), oxides of nitrogen (NO_x), and their precursors. Incremental cost effectiveness is defined as the difference in costs divided by the difference in emission reductions between a control alternative and the next more stringent control alternative.

The necessity analysis and the analysis of control alternatives and their incremental cost-effectiveness are presented in the Staff Report prepared for the proposed amendments.

AFFECTED INDUSTRIES

The proposed amendments to Rule 1168 would affect approximately 60 adhesive and sealant materials manufacturers, of which eight are manufacturing the products within the South Coast Air Basin. The affected facilities belong to the industries of Asphalt Shingle and Coating Materials (NAICS 324122) and Adhesive Manufacturing (NAICS 325520). Out of the eight affected facilities, seven are in Los Angeles County and one is located in San Bernardino County.

PAR 1168 would also affect six Big Box retailers, and approximately 40 distributors located in and outside of the SCAQMD. Big Box retailers belong to Home Centers in the retail sector (NAICS 444110) and adhesive and sealant distributors belong to Paint, Varnish, and Supplies Merchant Wholesalers (NAICS 424950). These facilities distribute regulated products such as aerosol adhesives, sealants, and adhesive primers into or within the SCAQMD.

PAR 1168 would also affect the intermediate-users of adhesive and sealant products. The sectors that make extensive use of products subject to the proposed amendments mainly belong to Construction (NAICS 23), Durable and Nondurable Manufacturing (NAICS 33 and 31-32, respectively) as presented in Table 1. More than 99 percent of these affected sources are area sources for which staff has no detailed information.

Table 1
Potentially Affected Intermediate-Users by Industry

<p>Construction (NAICS 23)</p> <ul style="list-style-type: none"> Industrial Building Construction (NAICS 236210) New Multifamily Housing Construction (NAICS 236116) Commercial and Institutional Building Construction (NAICS 236220) New Single-Family Housing Construction (NAICS 236115) Residential Remodelers (NAICS 236118) Oil and Gas Pipeline and Related Structures Construction (NAICS 237120) Water and Sewer Line and Related Structures Construction (NAICS 237110) Roofing Contractors (NAICS 238160) Siding Contractors (NAICS 238170) Tile and Terrazzo Contractors (NAICS 238340) Drywall and Insulation Contractors (NAICS 238310) Flooring Contractors (NAICS 238330) Glass and Glazing Contractors (NAICS 238150) Plumbing, Heating, and Air-Conditioning Contractors (NAICS 238220)
<p>Nondurable Manufacturing (NAICS 31-32)</p> <ul style="list-style-type: none"> Footwear Manufacturing (NAICS 316210) Hardwood Veneer and Plywood Manufacturing (NAICS 321211) Manufactured Home (Mobile Home) Manufacturing (NAICS 321991) Other Millwork (including Flooring) (NAICS 321918) Wood Container and Pallet Manufacturing (NAICS 321920) Wood Window and Door Manufacturing (NAICS 321911) Asphalt Shingle and Coating Materials Manufacturing (NAICS 324122 and 325520) Adhesive Manufacturing (NAICS 325520). All Other Rubber Product Manufacturing (NAICS 326299) Polystyrene Foam Product Manufacturing (NAICS 326140) Rubber Product Manufacturing for Mechanical Use (NAICS 326291) Tire Retreading (NAICS 326212) Urethane and Other Foam Product Manufacturing (NAICS 326150)
<p>Durable Manufacturing (NAICS 33)</p> <ul style="list-style-type: none"> Refrigeration Equipment Manufacturing (NAICS 333415) Custom Architectural Woodwork and Millwork Manufacturing (NAICS 337212) Household Furniture (except Wood and Metal) Manufacturing (NAICS 337125) Motor Vehicle Seating and Interior Trim Manufacturing (NAICS 336360) Office Furniture (except Wood) Manufacturing (NAICS 337214) Showcase, Partition, Shelving, and Locker Manufacturing (NAICS 337215) Surgical Appliance and Supplies Manufacturing (NAICS 339113) Wood Kitchen Cabinet and Countertop Manufacturing (NAICS 337110)

Lastly, if the additional costs associated with the proposed amendments are eventually passed on to end-users of PAR 1168 applicable products that are not regulated by CARB's CPR, PAR 1168 would potentially affect the general public (consumers).

Small Businesses

The SCAQMD defines a "small business" in Rule 102, for purposes of fees, as one which employs 10 or fewer persons and which earns less than \$500,000 in gross annual receipts. The SCAQMD also defines "small business" for the purpose of qualifying for access to services from SCAQMD's Small Business Assistance Office (SBAO) as a business with an annual receipt of \$5 million or less, or with 100 or fewer employees. In addition to SCAQMD's definition of a small business, the federal Clean Air Act Amendments (CAAA) of 1990 and the federal Small Business Administration (SBA) also provide definitions of a small business.

The CAAA classifies a business as a "small business stationary source" if it: (1) employs 100 or fewer employees, (2) does not emit more than 10 tons per year of either VOC or NOx, and (3) is a small business as defined by SBA. The SBA definitions of small businesses vary by six-digit North American Industrial Classification System (NAICS) codes. In general terms, a small business must have no more than 500 employees for most manufacturing industries, and no more than \$7 million in average annual receipts for most nonmanufacturing industries.¹ A business in the industry of adhesive manufacturing (NAICS 325520) with fewer than 500 employees is considered a small business by SBA.

Out of the eight affected adhesive and sealant manufacturers in the SCAQMD, information on sales for five facilities and that of employees for eight facilities were available, based on 2017 Dun and Bradstreet data. Under the SCAQMD definition of small business, there are no small businesses affected by PAR 1168. Using the SBA definition of small business, there are eight small businesses. Under the CAAA definition of small business, there are eight small businesses assuming that all the facilities without the annual emission data emit less than 10 tons of VOC or NOx. None of the affected Big Box retailers are considered small businesses under SCAQMD's definition.

Since there is no listing of individually affected distributors, and other industrial and commercial users, the number of affected small businesses in these industries cannot be determined. However, due to the fact that the majority of the businesses in this sector have fewer than 500 employees, most of them could potentially be small businesses under SBA and CAAA definitions.

COMPLIANCE COST

The purpose of PAR 1168 is to further reduce VOC and toxic air contaminant emissions from adhesives and sealants by relying on improvements in technology during the last 17 years. Table 2 presents the potential costs/savings implications of PAR 1168. For the purpose of this analysis, staff only quantified the impacts of the additional compliance costs associated with the proposed amendments and did not take into account any potential savings.

¹ See the SBA website (<http://www.sba.gov/community/blogs/community-blogs/small-business-matters/what-small-business-what-you-need-know-and-wh>). The latest SBA definition of small businesses by industry can be found at <http://www.sba.gov/content/table-small-business-size-standards>.

Table 2
Potential Costs/Savings of PAR 1168

Proposed Amendments	Potential Costs/Savings Implications
Clarify applicability; revise, delete, and add definitions	None
Amend VOC limits for certain adhesives, adhesive primers, sealants, and sealant primers	Additional costs of reformulation
Allow for a three-year sell-through or use-through of future noncompliant products	None
Add new product categories with corresponding VOC content limits	Additional costs of reformulation for those categories with more stringent VOC limits, and potential cost-savings for those categories with less stringent VOC limits
Require products marketed for use under varying categories to be subject to the lowest VOC limit	None, because it is currently being enforced in that manner
Prohibit the storage of future non-compliant products	Negligible. Proposal includes a three-year sell-through or use-through provision for future noncompliant products.
Include reporting requirements when using the 55 gallon per year exemption	Additional reporting costs
Prohibit the use of Group II exempt solvents, except volatile methyl siloxanes	Negligible. To staff's knowledge, the newly added Group II exempt solvent are not being used in adhesives or sealants.
Add test methods for VOC content analyses	None
Add requirements for labeling regulated product containers	Negligible. Some regulated products already have the proposed requirements included on their labels. For those who do not meet the proposed requirements, staff has proposed a start date for labeling requirements to allow manufacturers to sell-through current labels.
Include a technology assessment for certain product categories	None. Cost of technology assessments incurred by manufactures is included in the estimated cost of reformulation. Costs incurred by SCAQMD are not quantified at this time.
Include reporting requirements for certain facilities	Additional reporting costs
Remove, restrict, or add exemptions	None. Added cost for aerosol adhesive reporting is included in the cost of reporting above.
Include streamlined recordkeeping options for products with a VOC content of less than 20 grams per liter	Potential cost-savings
Allow products with a viscosity of 200 centipoise or greater to be exempted from transfer efficiency requirements	Potential cost-savings

As presented in Table 2, the majority of compliance costs of PAR 1168 stems from reformulation and reporting costs as discussed below.

Reformulation Costs

In order to meet the lower, more stringent proposed VOC limits, it is assumed that the affected adhesive and sealant manufacturers would need to reformulate the products that would become noncompliant from the proposed compliance dates: All Other Plastic Welding Cements and All Other Outdoor Floor Covering Adhesives by 2019; All Other Architectural Sealants, Clear, Paintable, and Immediately Water-Resistant Sealant, All Other Roof Adhesives, All Other Roof Sealants, All Other Sealants, Single Ply Roof Adhesive, Single-Ply Roof Membrane Sealants, Wood Flooring Adhesive, ABS to PVC Transition Cement, CPVC Welding Cement, Foam Sealant, Non-Staining Plumbing Putty, PVC Welding Cement, Rubber Vulcanization Adhesive, Top and Trim Adhesive by 2023.

PAR 1168 proposes VOC limit reductions for All Other Plastic Welding Cement, Reinforced Plastic Composites, and Waterproof Resorcinol Glue to address Reasonable Available Control Measure (RACM)/ Best Available Control Measure (BACM) requirements. These proposed changes are projected to result in negligible emission reductions and costs due to their limited sales and use.

Most of the reviewed All Other Outdoor Floor Covering Adhesives are very low in VOC content. The proposed limit is to align the VOC limit for this category with the current limit for All Other Indoor Floor Covering Adhesives so that all other Floor Covering Adhesives categories can be combined in the future. This will simplify compliance with Rule 1168. Nearly all of the products reviewed already meet the VOC content of 50 g/L or below; therefore, staff does not anticipate emission reductions or cost impacts from this proposed amendment.

Table 3 shows the additional cost of reformulated adhesive and sealant products that either manufacturers or intermediate- and end-users would have to pay for the compliant products. These additional annual costs were estimated by multiplying the reported number of gallons sold into SCAQMD jurisdiction for that category, as reported in the 2013 survey, by the price difference per gallon of products that are already compliant compared to products that would become non-compliant due to PAR 1168.

Table 3
Incremental Cost of Regulated Products by Category

Categories	Compliance Date	Number of Gallons Over Proposed VOC Limits	Incremental Cost Per Gallon* (2017 dollars)	Approximate Total Incremental Cost (in millions of 2017 dollars)
All Other Architectural Sealants	2019	562,500	\$6.21	\$3.49
Clear, Paintable, and Immediately Water Resistant Sealant ^{1,5}	2023	Protected Data	\$11.15	N/A
CPVC Welding ² Cement	2023	13,236	\$2.00	\$0.03
Foam Sealant ^{1,4}	2023	188,203	\$8.22	\$1.55
All Other Roof Adhesives	2023	136,123	\$0.33	\$0.04
All Other Roof Sealants	2023	638,085	\$0.31	\$0.19
All Other Sealants	2023	63,717	\$1.49	\$0.10
PVC Welding ² Cement	2023	196,120	\$2.00	\$0.39
Rubber Vulcanization Adhesives ⁵	2023	Protected Data	\$2.00	N/A
Single Ply Roof Adhesive	2023	85,998	\$2.09	\$0.18
Single-Ply Roof Membrane Sealant ³	2023	1,866	\$2.00	\$0.003
Top and Trim ¹ Adhesive	2023	61,510	\$4.09	\$0.25
Wood Flooring Adhesive	2023	525,435	\$1.83	\$0.96

*Incremental cost per gallon is estimated as the difference in current market prices between products that would remain compliant and products that would become non-compliant due to PAR 1168, unless otherwise noted.

1. No future compliant products available – incremental cost is estimated at 10% of market price for currently available products.
2. Feedback from one major stakeholder indicated that their reformulated product was not more expensive than their current product; the product from the other major stakeholder is less expensive than the high-VOC products but have not passed certain ASTM tests. Manufacturers will have to reformulate many of their products and they have to make some changes to the ASTM methods, so staff estimated a \$2/gallon incremental cost.
3. All future compliant products staff identified were lower cost than the higher VOC products while a significant share of the products have already met the proposed VOC limits. Staff estimated a \$2/gallon incremental cost for certain specialty products that will likely need reformulation.
4. Foam aerosol sealants need to be reformulated with a non-VOC propellant. Manufacturers can choose an exempt such as a hydrofluoroolefin (HFO), Oxygen, Nitrogen, or Carbon Dioxide as the propellant. The HFO option is considerably more expensive but it is not the only options.
5. A limited number of manufacturers reported for two of the categories. To protect the confidential sales volume, those numbers are not provided and the overall total sales is rounded.

The overall average annual cost of reformulation is estimated at \$6.30 million over the period 2019-2035, taking into account different compliance dates for different product categories.

Reporting Costs

PAR 1168 would require manufacturers, which also include private labelers, to submit Quantity and Emission Reports (QER) of regulated products sold into or within the SCAQMD's jurisdiction, every three years until 2025, then every five years, with a sunset date in 2040, amounting to a total of six reports over a 21 year period. Big Box retailers and distribution centers will be required to submit reports to the manufacturers and private labelers to assist them in accurately compiling their QER. This reporting will provide an accurate emission inventory and more detailed data that can be utilized as a tool for future rule development.

Aerosol adhesives and aerosol adhesive primers would remain exempt from most of the provisions of PAR 1168, but the manufacturers and private labelers of these products will be required to submit QERs for sales into or within the SCAQMD. Aerosol manufacturers are required to submit periodic surveys to the California Air Resources Board and the VOC limits are the same throughout California; therefore, PAR 1168 will allow aerosol adhesive manufacturers to use their statewide sales and adjust according to population and minimize potential reporting cost impacts.

PAR 1168 also requires facilities to report annual usage of high-VOC products sold under the 55 gallon per year exemption; the exemption allows a facility to use up to 55 gallons of noncompliant product per year. Staff found that most of the high-VOC sales under the exemption were for Rubber Vulcanization Adhesives and Top and Trim Adhesives. Staff is proposing to temporarily increase the VOC limits for these two categories and phase them out of the 55 gallon per year exemption by January 1, 2019. Facilities that use regulated products are already required to adhere to recordkeeping according to SCAQMD Rule 109 – Recordkeeping for Volatile Organic Compound Emissions. Under the proposed reporting requirement, they will have to only submit to SCAQMD those compiled records reflecting usage of products purchased under the 55 gallon per year exemption. Staff estimates that at most 20 facilities would have to report under this provision due to the proposed increase in the VOC limits for the above mentioned categories. Table 4 presents an estimated annual cost of reporting requirement.

Table 4
Annual Reporting Cost for PAR 1168 by Affected Industry

Category	Number of Facilities	Estimated Staff Hours Per Year Needed to Fulfill Reporting Requirement	Cost/Hour	Total Cost/year
Manufacturers (Large) ¹	14	80	\$40	\$14,933
Manufacturers (Midsize)	22	40	\$40	\$11,733
Manufacturers (Small)	24	10	\$40	\$3,200
Big Box Retailers	6	20	\$40	\$1,600
Distributors	40	40	\$40	\$21,333
Facilities applicable for the 55 gal exemption	20	2	\$40	\$533
Total				\$53,333

1. The number of manufacturers are separated according to quantity of regulated products reported in the 2013 survey. The “large” manufacturers represent those that reported greater than 50 products. The “medium” manufacturers represent those that reported between 49 and 20 products. The “small” manufacturers represent those that reported less than 20 products. Staff reached out to several manufacturers who participated in that survey to estimate the amount of time that will be dedicated to compiling and submitting QERs to the SCAQMD. The time to compile the data correlates with the amount of products sold within the SCAQMD’s jurisdiction. Affected regulated product manufacturers reporting fewer products would take less time to compile their reports. Eight of the manufacturers who responded to the 2013 survey were located within SCAQMD jurisdiction.

The reporting cost is estimated by multiplying the number of staff hours required to prepare reports by an average cost per hour of staff time. This reporting requirement would also require Big Box retailers and distribution centers (distributors) to submit reports to the manufacturers and private labelers of regulated products sold in SCAQMD jurisdiction at the same frequency. The initial reporting year will likely be the most time consuming, as systems will have to be created and staff trained to extract the necessary data. Subsequent reporting years should be more streamlined.

There are manufacturers both within and outside SCAQMD jurisdiction who are already familiar with extracting the proposed product information from their inventory tracking systems because they already comply with SCAQMD Rule 314 – Fees for Architectural Coatings, which has similar requirements as proposed in PAR 1168. These manufacturers already have systems and staff in place to extract quantity and emissions data for products sold into or within the SCAQMD.

In addition to manufacturers, there are numerous distributors, aside from the major Big Box retailers, that sell regulated products applicable to Rule 1168. [This estimate (40) is based on a search conducted on a supplier discovery platform online: thomasnet.com. (Search link: <http://www.thomasnet.com/southern-california/industrial-adhesives-95972105-1.html>.)]

A reporting requirement is also proposed for the Big Box retailers, similar to the requirement in SCAQMD Rule 314, although not as frequent. The Big Box reporting requirements in Rule 314

are due annually, whereas the proposed requirements for PAR 1168 are to be reported once every three years until 2025, then every five years, with a sunset date in 2040. Big Box retailers already have staff assigned and systems in place to extract regulated products for Rule 314. They would utilize the same staff and systems to report the regulated products for PAR 1168, by modifying their query or search criteria for the applicable product types.

Table 5 presents the total average annual cost of PAR 1168. The overall average annual cost of the PAR 1168 over the period 2019-2035 is estimated at \$6.34 million of which reformulation costs are estimated to be more than 99 percent of the total cost (\$6.30 million). The proposed amendments would reduce VOC emissions by 1.4 tons per day by 2023. Therefore, the cost-effectiveness of the PAR 1168 is estimated at \$12,400 per ton of VOC reduced ($= \$6.34 \text{ million} / (1.4 * 365)$).

Table 5
Average Annual Cost of Proposed Amendments

	2019	2022	2025	2035	Average Annual Cost (2019-2035) in millions of dollars
Reformulation Costs	\$3.49	\$5.09	\$6.92	\$6.92	\$6.30
Reporting Costs	\$0.05	\$0.05	\$0.03	\$0.03	\$0.04
Total	\$3.54	\$5.14	\$6.95	\$6.95	\$6.34

Two scenarios were created to assess the cost impacts of PAR 1168 from two different perspectives.

Scenario A

Scenario A places the direct cost impact of reformulation on adhesive and sealant manufacturers. In addition, this scenario places the cost of reporting on manufacturers, Big Box retailers, and distributors who would bear the vast majority of the estimated reporting costs. Manufacturers of future noncompliant adhesives and sealants products will need to reformulate their products to meet the VOC requirements of PAR 1168. However, different manufacturers may utilize different technologies to meet the VOC limits and therefore their reformulation costs may differ. Since manufacturers treat these costs as proprietary, they do not provide cost data to the SCAQMD. As a result, SCAQMD utilizes the price differences between future compliant and non-compliant products as proxies for the one-time reformulation, testing, and commercialization costs. In Scenario A, the annual costs of \$6.3 million are assumed to be incurred by the adhesive and sealant manufacturers (in and outside of SCAQMD's jurisdiction).

Scenario B

Scenario B assumes all costs will be passed on to the end-users, either from the directly affected industries or indirectly from the intermediate-users of adhesive and sealant products who use the PAR 1168 applicable products to provide goods and services to the final consumers. Table 6 presents the distribution of the total annual cost by sectors for both scenarios.

Table 6
Average Annual Cost of Proposed Amendments by sectors

Affected Industries	Average Annual Cost (2019-2035) in millions of dollars
<i>Scenario A</i>	
Adhesive Manufacturers	\$6.32
Big Box Retailers and Distributors	\$0.02
Total Costs	\$6.34
<i>Scenario B</i>	
End-User (General Public)	\$6.34
Total Costs	\$6.34

JOBS AND OTHER SOCIOECONOMIC IMPACTS

The REMI model (PI+ v2.1) was used to assess the total socioeconomic impacts of a policy change (i.e., the proposed rule). The model links the economic activities in the counties of Los Angeles, Orange, Riverside, and San Bernardino, and for each county, it is comprised of five interrelated blocks: (1) output and demand, (2) labor and capital, (3) population and labor force, (4) wages, prices and costs, and (5) market shares.²

The assessment herein is performed relative to a baseline (“business as usual”) where the proposed amendments would not be implemented. The proposed amendments would create a policy scenario under which the affected facilities would incur an average annual compliance costs totaling \$6.34 million to comply with other requirements of the PAR 1168.

Direct effects of the proposed amendments have to be estimated and used as inputs to the REMI model in order for the model to assess secondary and induced impacts for all the actors in the four-county economy on an annual basis and across a user-defined horizon (2019 to 2035). Direct effects of the proposed amendments include additional costs to the affected entities and additional sales, by local vendors, of equipment, devices, or services that would meet the proposed requirements. Whereas all the compliance expenditures that are incurred by the affected facilities will increase their cost of doing business, the spending on reformulation will increase spending and sales of the professional services sector. The additional labor required for reporting by manufacturers, Big Box Retailers and adhesive and sealant distributors would result in a reduction

² Within each county, producers are made up of 66 private non-farm industries, three government sectors, and a farm sector. Trade flows are captured between sectors as well as across the four counties and the rest of U.S. Market shares of industries are dependent upon their product prices, access to production inputs, and local infrastructure. The demographic/migration component has 160 ages/gender/race/ethnicity cohorts and captures population changes in births, deaths, and migration. (For details, please refer to REMI online documentation at <http://www.remi.com/products/pi.>)

in labor productivity because more labor will now be required to produce the same amount of output or services at those facilities.

Table 7 lists the industry sectors modeled in REMI that would either incur cost or benefit from the compliance expenditures.³

Table 7
Industries Incurring vs. Benefitting from Compliance Costs/Spending

Source of Compliance Costs	REMI Industries Incurring Compliance Costs (NAICS)	REMI Industries Benefitting from Compliance Spending (NAICS)
<i>Scenario A</i>		
Reformulation	Adhesive Manufacturing (NAICS 325520)	<i>Recurring Spending:</i> Professional, Scientific, and Technical Services (541)
Reformulation	Asphalt Shingle and Coating Materials (NAICS 324122)	<i>Recurring Spending:</i> Professional, Scientific, and Technical Services (541)
Reporting	Reduction in labor productivity at Adhesive Manufacturing (NAICS 325520) and Asphalt Shingle and Coating Materials (NAICS 324122)	N/A
Reporting	Reduction in labor productivity at Big Box Retailers (NAICS 444110)	N/A
Reporting	Reduction in labor productivity at Paint, Varnish, and Supplies Merchant Wholesalers (NAICS 424950)	N/A
<i>Scenario B</i>		
End-Users	Additional Spending on Household Supplies Reduction in Spending in Other Personal Consumption Categories	N/A

Two different simulation methods reflecting the two Scenarios mentioned before are used to examine the total impact of the proposed amendments on the entire local economy. Scenario A

³ It is worth mentioning that improved public health due to reduced air pollution emissions may also result in a positive effect on worker productivity and other economic factors; however, public health benefit assessment requires the modeling of air quality improvements. Therefore, it is conducted for Air Quality Management Plans and not for individual rules or rule amendments.

places additional cost of compliance on manufacturers, ~~and~~ retailers, and distributors. Scenario B places additional cost of compliance onto end users as consumers.

Compliance with PAR 1168 will start in the year 2019. The additional cost of compliance to adhesive and sealant manufacturing is distributed among the four counties based on their location in each county. Only adhesives and sealants produced in the four-county area are modeled.⁴ Additional cost of reporting to Big Box retailers and distributors is distributed among the four counties based on the employment share of those facilities relative to the U.S. total from the 2016 Quarterly Census of Employment and Wages (<https://www.bls.gov/cew/cewfaq.htm>).

Under Scenario A, PAR 1168 is expected to result in minimal job impact, or approximately one job forgone between 2019 and 2035. The projected job impacts represent about 0.00001 percent of the total employment in the four-county region. As presented in Table 8, minimal job impact is projected across all major sectors of the regional economy.

In 2019, nine additional jobs could be created in the overall economy. In earlier years, positive job impacts from the expenditures made by the affected facilities would more than offset the jobs forgone from the additional cost of doing business as presented in Table 8. The sector of professional and technical services (NAICS 541) are projected to gain six jobs annually from additional demand for expenditures made for reformulation, testing and marketing of the compliant products. Although the manufacturing sector would bear the majority of estimated total compliance costs of the PAR 1168, the industry job impact is projected to be relatively small (annual average of two jobs foregone between 2019 and 2035). This is because only a small fraction of the affected adhesive and sealant manufacturing ~~are~~ located in the four county area. The additional cost of reporting requirement for distributors and Big Box retailers, along with secondary and induced effects, contribute to the minimal job impact in the wholesale and retail sectors.

Table 8
Job Impacts of PAR 1168 (Scenario A)

Industries (NAICS)	2019	2025	2035	Average Annual (2019-2035)
Construction (23)	0	-2	-1	-1
Mining (21)	0	-1	-1	-1
Manufacturing (31-33)	0	-2	-2	-2
Wholesale trade (42)	0	-1	-1	-1
Retail trade (44-45)	0	-2	-1	-2
Professional and technical services (54)	6	9	5	7
Food services and drinking places (722)	0	-4	-4	-4
Government (92)	0	0	-1	-1
Other Industries	3	3	2	4
Total	9	0	-1	-1

⁴In order to model manufacturers outside of the four-county area, a REMI model including the rest of U.S. would be needed.

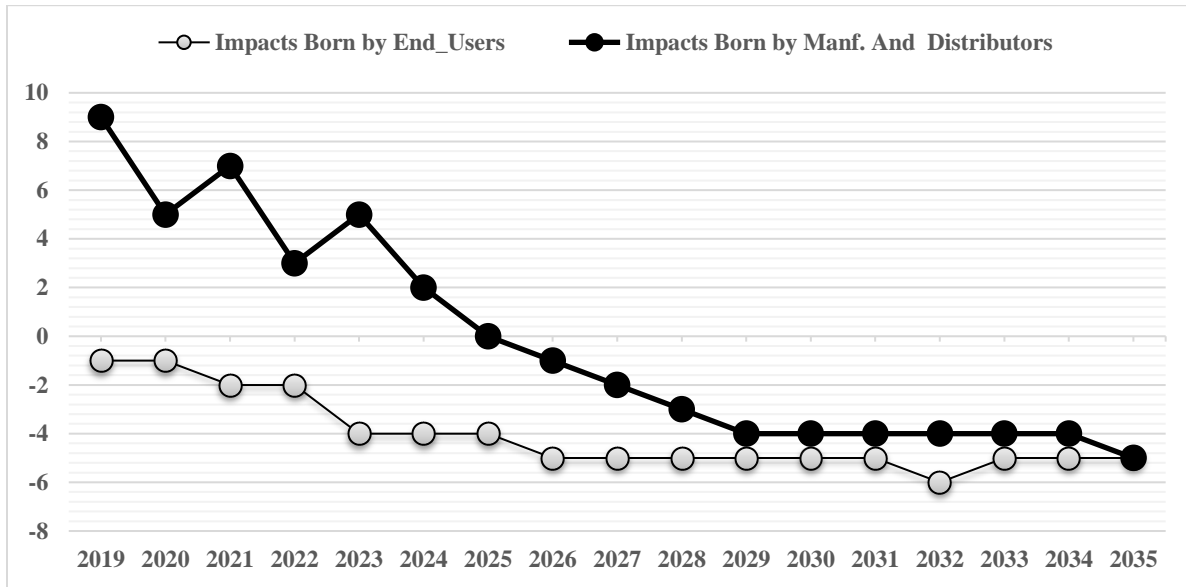
Under Scenario B, PAR 1168 is expected to result in approximately four jobs forgone between 2019 and 2035. The projected job impacts represent about 0.00004 percent of the total employment in the four-county region. As presented in Table 9, minimal job impacts are projected across all major sectors of the regional economy. It is assumed that additional consumer spending on more expensive compliant products will be offset by reduction in consumer spending in other consumption categories.

Table 9
Job Impacts of PAR 1168 (Scenario B)

Industries	2019	2025	2035	Average Annual (2019-2035)
Construction	-1	-6	-5	-5
Manufacturing	3	3	2	3
Wholesale Trade	1	2	1	1
Retail Trade	8	11	6	9
Finance and Insurance	-1	-2	-1	-2
Real Estate and Rental and Leasing	-1	-1	-1	-1
Administrative and Waste Services	-1	-1	-1	-1
Educational Services	-1	-1	-1	-1
Health Care and Social Assistance	-5	-7	-5	-6
Arts, Entertainment, and Recreation	-1	-1	-1	-1
Accommodation and Food Services	-2	-3	-2	-2
Other Services, except Public Admin.	-3	-4	-3	-3
Government	3	6	6	5
Total	-1	-4	-5	-4

Figure one presents a trend of job gain and losses over 2019-2035 time periods for both scenarios. Job losses for both scenario are considered minimal.

Figure 1
Projected Regional Job Impact, 2019-2035



Competitiveness

The additional cost brought on by the proposed amendments would increase the cost of production of the affected industries relative to their national counterparts. Changes in relative production costs would thus be a good indicator of changes in relative competitiveness. The magnitude of the impact depends on the size and diversification of, and infrastructure in a local economy as well as interactions among industries. A large, diversified, and resourceful economy would absorb the impact with relative ease.

Changes in production costs will affect prices of goods produced locally. The relative delivered price of a good is based on its production cost and the transportation cost of delivering the good to where it is consumed or used. The average price of a good at the place of use reflects prices of the good produced locally and imported elsewhere. Under both Scenarios, there would be few impacts on the relative costs of production and the delivery prices in the regional economy resulting from the implementation of the proposed amendments.

NECESSITY

Please refer to the Staff Report.

INCREMENTAL COST-EFFECTIVENESS

Please refer to the Staff Report.

REFERENCES

Dun & Bradstreet Enterprise Database. 2017.

Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (70 sector model). Version 2.1. 2017.

South Coast Air Quality Management District. Draft Staff Report Proposed Amended Rule 1168 – Adhesives and Sealant Applications, Diamond Bar, CA. August 2017.

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Proposed Amended Rule 1168: Adhesive and Sealant Applications

October 6, 2017

Governing Board Meeting



Background

- Applies to adhesives, adhesive primers, sealant, and sealant primers
- Rule adopted in 1989; last amended in 2005
- Most current limits established in 2000
 - *No significant VOC reductions in 17 years*
- Current emissions inventory could be as much as ~10.5 tpd
- Growth industry
 - Use increases with population
 - Increased interest in insulation/energy efficiency
- Meets 2016 AQMP SIP commitment ~1 tpd VOC reduction by 2023

Public Process


2013/2014

- Product Survey
- Eight Working Group Meetings
- Six drafts of the rule/released preliminary draft staff report
- Stakeholder meetings
- Proposed 4.4 tpd VOC emissions reductions
 - 22 affected categories
 - Considered use of tBAc and DMC as an exempt VOC

2017

- Three Working Group Meetings
- Two drafts of the rule
- Preliminary Draft Staff Report
- Stakeholder meetings supported completing this process
- Proposed 1.4 tpd VOC emissions reductions
 - 18 affected categories
 - tBAc and DMC not exempt VOC

Proposed Rule Amendments

- Clarify rule language and applicability
 - Update definitions
 - Revise VOC content limits for various categories
 - Compliant products exist for most categories
 - Extended some compliance dates
 - Committed to technology assessments
 - Include reporting and labeling requirements for manufacturers/
distributors, not most end-users
 - Facilities using high-VOC products under the 55 gal/year exemption must report
 - Harmonize language with state and federal regulations
- 
- Strong industry support

Applicability & Authority



SCAQMD Rule 1168

- Adhesives and sealants greater than one pound
- Stationary Source use - industrial/manufacturing operations
- Consumer products not regulated by CARB

CARB Consumer Products Regulation

- Household, institutional, and consumer use (adhesives and sealants one pound or less in size)
- Aerosol Adhesives

Proposed VOC Limits

- Reduce VOC limits to reflect new technology in the marketplace
 - Most VOC limits based on currently available products
 - A few VOC limits based on manufacturer feedback (foam sealants and CPVC/PVC welding cements)
 - Allow 5 years to implement and include technology assessment
- Technology Assessments
 - Set a future VOC limit as a target for industry to work towards
 - Purpose is not to assess feasibility but check progress/report to Governing Board
 - Various timelines depending on category



Proposed VOC Limits

	Category	VOC Content Limit (g/L)			
		Current	Upon Rule Adoption	1/1/2019	1/1/2023
A D H E S I V E S	Building Envelope Membrane Adhesive	250			
	All Other Outdoor Floor Covering Adhesives	150		50	
	All Other Roof Adhesives	250			200*
	Single Ply Roof Membrane Adhesive	250			200*
	Wood Flooring Adhesive	100			20
	Edge Glue	250			
	ABS to PVC Transition Cement	510			425*
	CPVC Welding Cement	490			400*
	PVC Welding Cement	510			425*
	All Other Plastic Welding Cements	250		100	
	Rubber Vulcanization Adhesive	250	850		250
	Top and Trim Adhesive	250	540		250*
	Waterproof Resorcinol Glue	250		170	
	Substrate Specific Adhesive Applications				
	Reinforced Plastic Composite	250		200	
S E A L A N T S	Clear, Paintable, and Immediately Water Resistant	250	380		250
	Foam Sealant	250			50*
	Grout	250	65		
	Potable Water Sealant	250	100		
	All Other Roof Sealants	300			250*
	Single Ply Roof Membrane Sealant	450			250*
	All Other Architectural Sealants	250		50	
	All Other Sealants	420			250
	Adhesive Primers				
	Pressure Sensitive	200	785		
	Vehicle Glass	250	700		

* Includes a technology assessment prior to implementation date

Recordkeeping/Reporting Requirements

- End-Users - no new recordkeeping requirements
- Manufacturers, private labelers, Big Box, & distributors
 - Quantity and Emission Reporting Form (*simple spreadsheet*) created by staff
 - Building on success of Rule 314 – Fees for Architectural Coatings

Rule 1113

Architectural Coatings

- Inventory ~11 tpd
- Sales and Emissions Fees - \$2 million annually
- Reporting
 - Annual Reporting (Rule 314)
- No sunset date

PAR 1168

Adhesives & Sealants

- Inventory ~10.5 tpd
- No Fees
- Reporting
 - Every 3 years until 2025, every 5 years thereafter (6 reports in total)
- Sunset in 2040

Key Concerns

- Proposed VOC limits for **PVC welding cements** lowered from 510 g/L to 425 g/L
 - Products currently available below 425 g/L
 - Leaders in the industry expressed support for the lower VOC limits in 5 years
 - Technical assessment included



Key Concerns (cont.)

- Executive Officer decides which test method is used if **multiple applicable test methods**
 - Resolution commits staff to develop guidance document with stakeholders to specify a single method for each product type
 - Resolution commits staff to an enforcement pathway for thin-film energy curable products



Key Concerns (cont.)

Foam Sealant

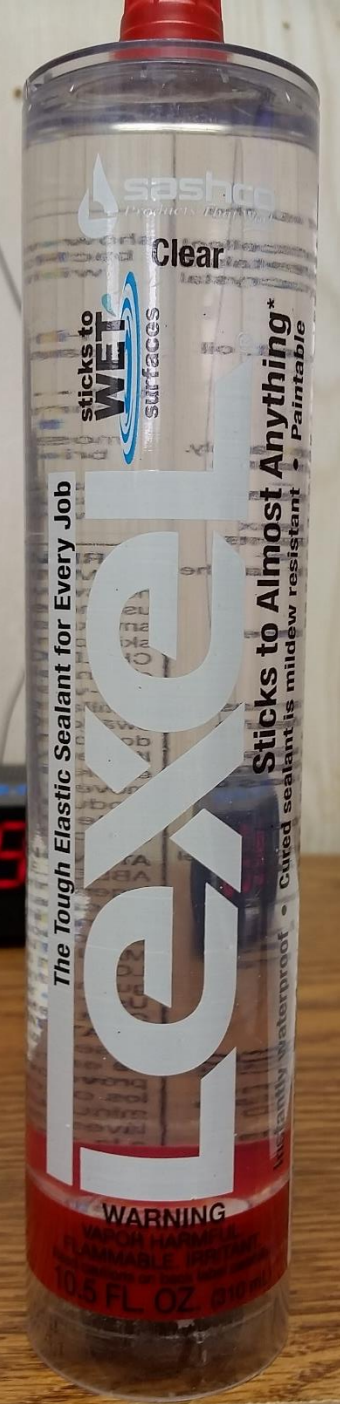
- Industry representative does not consider foam insulation as sealant
- Foam insulation meets definition of sealant
- VOCs emitted during application
 - High use, potentially significant source of VOC emissions with projected future growth
- Proposing 250 g/L in five years, reducing to 50 g/L with early technology assessment
- Foam insulation available at 50 g/L
- Technology assessment:
 - Predominantly for foam sealants (VOC propellant in can)



Key Concerns (cont.)

Clear, Paintable, and Immediately Water-Resistant Sealants

- Interpreted to meet definition of sealant
- Staff recognizes products do not meet current 250 g/L limit
 - Proposing higher 380 g/L VOC limit upon adoption
 - Allowing five years to reformulate to meet 250 g/L limit
 - Manufacturers seeking technology assessment
- Low-VOC sealants (<50 g/L) currently available that are:
 - **Clear** and immediately waterproof, or
 - **Paintable** and immediately waterproof



Staff Recommendations

- Certify the Final Environmental Assessment
- Adopt Resolution
- Amend Rule 1168 – Adhesive and Sealant Applications

