



Rule 1168 – Adhesive and Sealant Applications

Working Group Meeting #2

August 26 2026, 09:00 AM (PST)

Join zoom meeting:

<https://aqmd.zoomgov.com/j/1658914403>

Meeting ID: 165 891 4403

Agenda



Background on Amendment

2022 Rule 1168 Amendment Established

- Prohibition timeline for para-Chlorobenzotrifluoride (pCBtF) and tert-butyl acetate (t-BAc)
 - Required a Technology Check-in to ensure reformulation efforts were successful

Technology Check-In Indicated

- Roofing adhesive primers will need additional time to phase-out of pCBtF
 - Low-solids and heavily reliant on pCBtF for compliance (up to 70% in formulation)
 - Current phase out date is January 1, 2027
 - Reformulation has been challenging

Other Areas of Concern

- Future-effective lower volatile organic compound (VOC) limits for three categories with upcoming or past deadlines:
 - Clear, Paintable, and Immediately Water-Resistant Sealants
 - Rubber Vulcanization Adhesives
 - Top and Trim

Summary of Working Group Meeting #1

Working Group Meeting #1 on July 8, 2026

- Presented rule background, exempt compounds, and phaseout deadlines
- Results of Technology Check-In
- Background and consideration of Product-Weighted Maximum Incremental Reactivity (PW-MIR) VOC limits

Progress Since Last Working Group Meeting

- Follow-up meeting with stakeholders discuss challenges, reformulation efforts, and prohibition deadlines
- Initial assessment of alternative PW-MIR limits for some challenging categories

Roofing Adhesive Primers

Roofing Adhesive Primers

Met with roofing manufacturer on August 14, 2026 to assess pCBtF phase out

- Indicated both Ethylene propylene diene terpolymer membrane (EPDM) and thermoplastic polyolefin (TPO) Roofing Adhesive Primers continue to have reformulation challenges

High solvent content primers used to achieve bond strength

- VOC limits achieved with high levels of pCBtF (40 – 70%)

Manufacturer indicated no VOC-compliant reformulation has yet been identified that maintains required bond strength and durability

Roofing Adhesive Primer

Stakeholder indicated that an alternative PW-MIR VOC limit as potential compliance pathway

Staff's initial assessment shows an average PW-MIR of 0.64 for Roofing Adhesive Primers

Staff considering additional time and alternative PW-MIR limit for category

- Three-year extension to January 1, 2030

Roof Adhesive Primer pCBtF prohibition timeline

Proposed Phase Out Timelines

	Prohibition Effective Date	Sell-through End Date	Use-through End Date
pCBtF Prohibition Effective Dates			
Cut Edge Single Ply Roof Membrane Sealant	January 1, 2027	January 1, 2028	January 1, 2028
EPDM/TPO Single Ply Roof Membrane Sealant	January 1, 2027	January 1, 2028	January 1, 2028
Roof Adhesive Primer	January 1, 2027 January 1, 2030	January 1, 2028 January 1, 2031	January 1, 2028 January 1, 2031
Single Ply Roof Membrane Sealant (Except Cut Edge)	January 1, 2025	January 1, 2028	January 1, 2028
All Other Roof Sealant	January 1, 2025	January 1, 2028	January 1, 2028
Roof Sealant Primer	January 1, 2025	January 1, 2028	January 1, 2028
Clear, Paintable, and Immediately Water Resistant Sealant	January 1, 2026	January 1, 2028	January 1, 2028
All Regulated Products Not listed Above	January 1, 2026	January 1, 2028	January 1, 2028
t-BAc Prohibition Effective Dates			
All Regulated Products	January 1, 2024	January 1, 2027	January 1, 2028

Top and Trim Adhesive

Top and Trim Adhesives

- Staff met with stakeholder in June 2026
- Initial stakeholder feedback was:



Successfully developed low VOC water-based contact adhesive



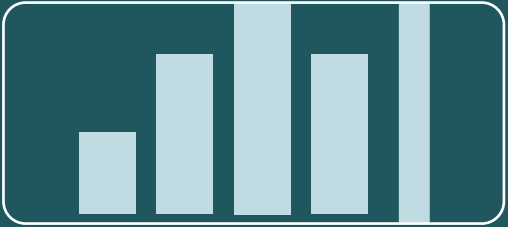
Did not pass critical top and trim performance tests required for automotive use



The currently developed water-based systems cannot deliver the required high-heat-resistant properties



Considerations for Top and Trim Adhesives



PW-MIR VOC limits may provide solution for this challenging category

- No existing product meets 250 g/L limit



Staff will continue working to establish a PW-MIR equivalent to 250 g/L limit adhesive

- Comparable rules with PW-MIR limits ~ 0.60 g O₃/g Product



Given reformulation challenges, staff proposing to extend the compliance timeline by two-years to January 1, 2030

Top and Trim Proposed Timelines

- Top and Trim Adhesives do not have a pCBtF prohibition timeline
 - The VOC limit at 250 g/L has been set to be met on January 1, 2028
- Staff will extend timeline for two additional years until January 1, 2030

Category	Current Limit (g/L)	Limit at Future Effective Date	Future Effective Date
Top and Trim Adhesive	540	250	1/1/2028 1/1/2030

Rubber Vulcanization Adhesive

Rubber Vulcanization Adhesive

Revised

Staff met with stakeholder in June 2026

- **Initial stakeholder feedback:**
 - Rubber vulcanization adhesives are highly specialized and uniquely formulated per use case
 - Product development was temporarily slowed due to a manufacturing plant incident
 - Next-generation water-based technologies are in early testing and look promising

Stakeholder follow-up regarding reformulation indicated:

- Three compliant water-based products currently in development
 - Not all current application will be tested and ready by January 1, 2028
- Additional time necessary to meet current limit due to reformulation challenges

Staff proposing to extend compliance timeline by one-year to
January 1, 2029

Rubber Vulcanization Adhesive Proposed Timelines

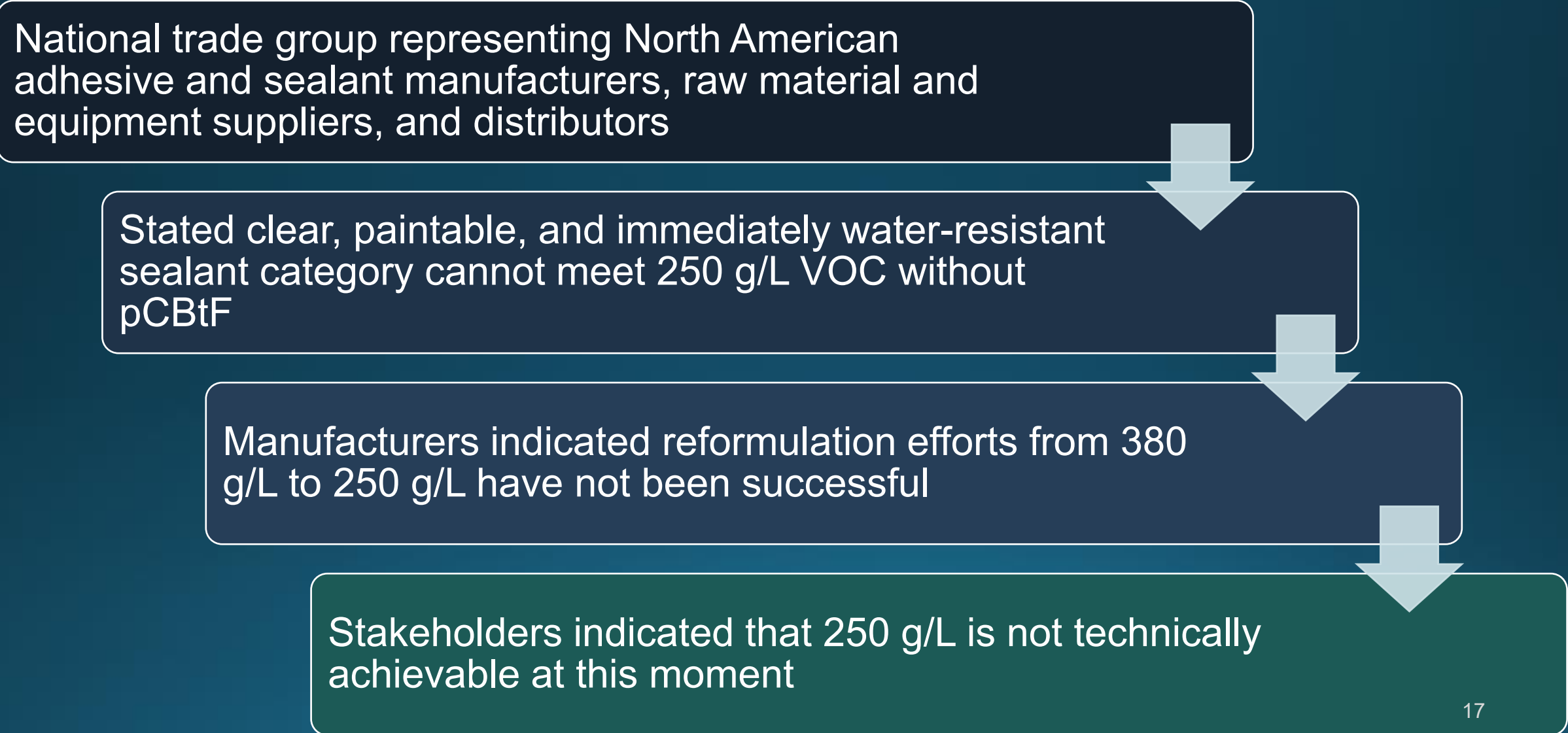
- Rubber vulcanization Adhesives do not have a pCBtF prohibition timeline
 - The VOC limit at 250 g/L has been set to be met in 2028
- Staff will extend timeline for one additional year until January 1, 2029

Category	Current Limit (g/L)	Limit at Future Effective Date	Future Effective Date
Rubber Vulcanization Adhesive	850	250	1/1/2028 1/1/2029

Clear, Paintable, and Immediately Water-Resistant Sealants

Meeting with Adhesive and Sealant Council (ASC)

National trade group representing North American adhesive and sealant manufacturers, raw material and equipment suppliers, and distributors



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graph TD; A[National trade group representing North American adhesive and sealant manufacturers, raw material and equipment suppliers, and distributors] --> B[Stated clear, paintable, and immediately water-resistant sealant category cannot meet 250 g/L VOC without pCBtF]; B --> C[Manufacturers indicated reformulation efforts from 380 g/L to 250 g/L have not been successful]; C --> D[Stakeholders indicated that 250 g/L is not technically achievable at this moment];
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Stated clear, paintable, and immediately water-resistant sealant category cannot meet 250 g/L VOC without pCBtF

Manufacturers indicated reformulation efforts from 380 g/L to 250 g/L have not been successful

Stakeholders indicated that 250 g/L is not technically achievable at this moment

Background on Clear, Paintable, Immediately Water-Resistant Sealant

Category created in 2017 to clarify they are regulated by Rule 1168

- Industry argued products were not regulated by South Coast AQMD

VOC Limit established at 380 g/L, reduced to 250 g/L in 2022, further delayed until 2026

- Allowed a higher VOC limit upon adoption but reduced to 250 g/L to align with VOC limits for “Architectural Sealants” and “All Other Sealants”
- Architectural Sealants VOC limit reduced to 50 g/L as of January 1, 2019
- Majority of Clear, Paintable, Immediately Water-Resistant Sealants are used for architectural applications, some are used as Roofing Sealants

250 g/L went into effect January 1, 2026

- Sell-through and Use-through for products manufactured before January 1, 2026 allowed until January 1, 2028

Uses for Clear, Paintable, Immediately Water-Resistant Sealant

• Architectural

- ~66 percent of use
 - Sinks, bathtubs, windows
- Architectural Sealant VOC limit 50 g/L
- Many sealants meet this limit
 - Are not immediately water-resistant, but less critical for this application
 - Are not both clear and paintable

• Roofing

- ~33 percent of use
 - Flashing, vent pits, ductwork
- Roofing Sealant VOC limits 300 g/L
- Many sealants meet this limit including immediately water-resistant sealants
 - Are not both clear and paintable

Considerations for Clear, Paintable, Immediately Water-Resistant Sealant



Timeline to reformulate has been extended since 2017



Multipurpose water-resistant sealants meeting 50 g/L VOC limit are commercially available



Some products reported with VOC levels less than 50 g/L



Non-clear or paintable water-resistant outdoor roofing sealants meeting 300 g/L VOC limit are commercially available

Staff proposing to extend compliance timeline by ~ one-year from rule adoption to January 1, 2028

Staff Proposed Amendments Summary



Proposing to extend compliance dates for:

- Clear, paintable, and immediately water-resistant (Jan. 1, 2028)
- Roofing adhesive primers (Jan. 1, 2030)
- Rubber Vulcanization (Jan. 1, 2029)
- Top and Trim (Jan. 1, 2030)



Proposing to provide alternative reactivity-based limits for:

- Roofing Adhesive Primers
- Top and Trim Adhesives



Other Considerations

Quantity and Emission Reports (QERs)

- Considering changes in QER to align with Rule 1113/314 and improve data quality
 - Rule 1168 has similar reporting requirements; however, not all manufacturers are reporting adhesives and sealants if they were sent to a distributor
 - Change ensures all products sent to retailers, distributors within South Coast AQMD, and through a big box retailers are included in QER

Rule 314/1113

*“**big box retailer to report** to the District and the **architectural coatings manufacturer** of that product the total annual quantity of each coating product ...for the previous calendar year”*

*“Total annual quantity of each product distributed or sold into or within the District for use in the District, The annual quantity of each product **shall include products sold through big box retailers with distribution centers located within or outside the District.**”*

Rule 1168

*“Total annual volume sold into or within the South Coast AQMD, **including products sold through distribution centers located within or outside the South Coast AQMD**, reported in gallons for all container sizes”*

| Quantity and Emission Reports (QERs) (*cont.*)

- South Coast AQMD primarily relies on the manufacturers to provide complete information
- Amend rule to clarify that manufacturers must report:
 - All sales to retailers, who directly sell within South Coast AQMD
 - All sales to distributors located within the South Coast AQMD
 - All sales reported back to the manufacturers from the big box retailers
- Require manufacturers to submit their list of distributors
- Require distributors to keep and maintain records, but remove reporting requirement
 - Want to avoid duplicate reporting and double counting
 - Quantity and emissions data should come from manufacturers
- Staff will clarify the definition of a distribution centers to indicate they are midstream distributors, not the retailers who directly sell to end users

Quantity and Emission Reports (QERs) (*cont.*)

- Some QER submissions include ambiguous category names (e.g., reporting “adhesives” without identifying the correct adhesive sub-category) or outdated names from previous rule amendments which leads to confusion and incorrect classification
- Inconsistencies make data validation, reporting, and trend analysis more difficult and time-consuming
- Introducing standardized 1168 category codes in reporting templates to eliminate ambiguity
- Table shows some category codes as an example

Category Code	Adhesives
	Architectural Applications
69	Building Envelope Membrane Adhesive
9	Carpet Pad Adhesive
8	Ceramic Glass, Porcelain, & Stone Tile Adhesive
6	Cove Base Adhesive
7	Dry Wall and Panel Adhesive
16	Multi-Purpose Construction Adhesives
	Roofing
137	Hot Applied Modified Bitumen/Built Up Roof Adhesive
138	EPDM/TPO Single Ply Roof Membrane Adhesive
93	Single Ply Roof Membrane Adhesive (Except EPDM/TPO)
140	Shingle Laminating Adhesive
65	All Other Roof Adhesives
12	Rubber Floor Adhesive
61	Structural Glazing Adhesive
19	Structural Wood Member Adhesive
13	Subfloor Adhesive
14	VCT and Asphalt Tile Adhesive
15	Wood Flooring Adhesive
10	All Other Indoor Floor Covering Adhesives
11	All Other Outdoor Floor Covering Adhesives
141	Computer Diskette Manufacturing Adhesive
21	Contact Adhesive
142	Edge Glue Adhesive

Background on 55-Gallon Exemption (j)(10)

Currently, facilities can use up to 55 gallons of non-compliant products per year

Facilities used to rely on 55-gallon exemption for Top and Trim and Rubber Vulcanization adhesives because no compliant products were available

In 2017, staff increased the VOC limit for those categories and required facilities to report if they are using the 55-gallon exemption

Staff is not aware of any adhesives or sealants that cannot meet the current VOC limits

No facility has reported using the exemption

Manufacturers cite the exemption to justify selling non-compliant products into the South Coast AQMD

Proposed 55-Gallon Exemption Sunset

Proposing
to sunset
exemption
effective
January 1,
2028

No annual reports have been received from facilities
utilizing this exemption

Compliant products exist in every category

Independent Distributor Exemption (j)(10)

Independent Distributor Exemption

The current exemption allows manufacturers and suppliers to sell non-compliant products provided they inform independent distributors in writing that the products may not be used within the South Coast AQMD

Manufacturers have reported selling large quantities of non-compliant adhesives and sealants for sale in our jurisdiction citing this exemption

Staff's review of written notices provided by the manufacturers to the distributors sometimes lack specificity

Staff proposing to explore options to address this provision and will provide more guidance in the staff report

Next Steps

Continue Working Group Meetings and discussions with Stakeholders

Release Preliminary Draft Documents on September 18, 2026

Stationary Source Committee on October 16, 2026

Release Draft Documents on November 3, 2026

Set Hearing on November 6, 2026

Public Hearing December 4, 2026 (subject to change)

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