SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Preliminary Draft Staff Report

Proposed Amended Rule 1136 – Wood Products Coatings

January 2026

Deputy Executive Officer
Planning, Rule Development, and Implementation
Sarah L. Rees, Ph.D.

Assistant Deputy Executive Officer
Planning, Rule Development, and Implementation
Michael Krause

Planning and Rules Manager
Planning, Rule Development, and Implementation
Heather Farr

Authors: Mojtaba Moghani, Ph.D. – Air Quality Specialist

Contributors: Sarady Ka – Program Supervisor
George Illes – Senior Engineering Manager
Sinae Kim – Senior Engineering Manager
Crystal Villanueva – Senior Enforcement Manager
Hemang Desi – Supervising Air Quality Engineer
Emilee Kang Tan – Senior Air Quality Engineer
Andrew Burris – Senior Air Quality Chemist
Julia Gomez – Air Quality Engineer II
Xian-Liang (Tony) Tian, Ph.D. – Program Supervisor
Chris Yu – Air Quality Specialist
Farzaneh Khalaj, Ph.D. – Air Quality Specialist

Reviewed By: Erika Chavez – Principal Deputy District Counsel
Barbara Radlein – Planning and Rules Manager
Kevin Ni – Program Supervisor, CEQA

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

GOVERNING BOARD

Chair: MICHAEL A. CACCIOTTI
Council Member, South Pasadena
Cities of Los Angeles County/Eastern Region

Vice Chair: LARRY MCCALLON
Mayor Pro Tem, Highland
Cities of San Bernardino County

MEMBERS:

VANESSA DELGADO
Senator (Ret.)
Senate Rules Committee Appointee

CURT HAGMAN
Supervisor, Fourth District
County of San Bernardino

PATRICIA LOCK DAWSON
Mayor, Riverside
Cities of Riverside County Representative

HOLLY J. MITCHELL
Supervisor, Second District
County of Los Angeles

JANET NGUYEN
Supervisor, First District
County of Orange

BRENDA OLMOS
Vice Mayor, City of Paramount
Cities of Los Angeles County/Wester Region

VERONICA PADILLA-CAMPOS
Speaker of the Assembly Appointee

V. MANUEL PEREZ
Supervisor, Fourth District
County of Riverside

NITHYA RAMAN
Councilmember, Fourth District
City of Los Angeles Representative

CARLOS RODRIGUEZ
Mayor, Yorba Linda
Cities of Orange County

VACANT
Governor's Appointee

EXECUTIVE OFFICER:
WAYNE NASTRI

TABLE OF CONTENTS

Chapter 1 : BACKGROUND 1-0
Introduction 1-1
2022 Air Quality Management Plan (AQMP) 1-1
Regulatory History 1-2
Comparative Toxicity Context for pCBtF and t-BAc 1-2
Affected Industries 1-4
Process Description 1-5
Public Process 1-5
Chapter 2 : TECHNOLOGY ASSESSMENT 2-0
Wood Coating Materials and VOC Control 2-1
Product-Weighted Maximum Incremental Reactivity (PW-MIR) Compliance Pathway 2-2
Chapter 3 : SUMMARY OF PROPOSALS 3-0
Introduction 3-1
Proposed Amended Rule Structure 3-1
Proposed Amended Rule 1136 3-1
Chapter 4 : IMPACT ASSESSMENT 4-0
Emission Impacts 4-1
Costs 4-2
Socioeconomic Impact Assessment 4-3
California Environmental Quality Act (CEQA) 4-3
Draft Findings Under the Health and Safety Code 4-3
Comparative Analysis 4-3

LIST OF TABLES

Table 1-1: Working Group Meetings 1-6
Table 1-2: Site Visits 1-6
Table 2-1: Wood Coating Materials Survey Questions 2-4
Table 2-2: Summary of the Number of Products Reported in Survey 2-4
Table 2-3: Sales Volume of All Reported Products by Category 2-5
Table 2-4: Summary of PW-MIR Values and Existing VOC Limits by Category 2-8
Table 2-5: Proposed Prohibition Schedule for Wood Coatings and Strippers 2-9
Table 3-1: Summary of the VOC Limits 3-4
Table 3-2: Table of Standards for Low Solids Coatings and Strippers VOC Limits 3-5
Table 3-3: Prohibition Schedule 3-6
Table 4-1: Estimated VOC Emissions by Category Reported in Manufacturer Survey 4-2

LIST OF FIGURES

Figure 1-1: PAR 1136 facilities in South Coast AQMD 1-4
Figure 2-1: Total Sales Volume and Sales Volume Containing pCBtF by Category..... 2-6
Figure 2-2: Average Product-Weighted MIR (PW-MIR) by Coating Category 2-7

EXECUTIVE SUMMARY

Rule 1136 – Wood Products Coatings (Rule 1136) was originally adopted in 1983 to reduce emissions of Volatile Organic Compounds (VOCs) from coatings, strippers, and solvents used in the manufacture, refinishing, and maintenance of wood products, including furniture, cabinets, shutters, and other coated wood materials. Since its adoption, the rule has been amended multiple times to lower VOC content limits, expand coating categories, update definitions and test methods, and support the South Coast Air Quality Management District's (South Coast AQMD) ongoing efforts to reduce VOC emissions from industrial coating operations.

As manufacturers reformulated coatings to comply with increasingly stringent VOC requirements, many transitioned to the use of VOC-exempt solvents such as para-Chlorobenzotrifluoride (pCBtF; Chemical Abstracts Service Registration Number (CAS RN): 98-56-6) and *tert*-Butyl Acetate (t-BAc; CAS RN: 540-88-5). Subsequent toxicological evaluations conducted by the Office of Environmental Health Hazard Assessment (OEHHA) identified toxic endpoints for these compounds, including cancer potency values comparable to or exceeding chemicals already restricted under South Coast AQMD rules. In response to these findings, the Governing Board directed staff to assess pCBtF and t-BAc usage in the wood coatings sector and develop an approach to reduce exposure to these compounds. PAR 1136 also partially implements 2022 Air Quality Management Plan (AQMP) control measure CTS-01 – Further Emission Reductions from Coatings, Solvents, Adhesives, and Lubricants.

To better characterize exempt-solvent use in the marketplace, staff conducted a manufacturer survey. Survey responses identified six coating categories that currently rely on pCBtF in their formulation, while no coating categories were identified as using t-BAc. Staff also performed technical analyses to determine equivalent reactivity-based Product-Weighted Maximum Incremental Reactivity (PW-MIR) VOC limits for these categories. The PW-MIR VOC limits are based on equivalent ozone forming potential. Manufacturers indicated that stripper reformulation may present more challenges than coatings, due to limited performance-equivalent alternatives and the United States Environmental Protection Agencies (U.S. EPA) future phase out of Methylene Chloride.

PAR 1136 proposes a regulatory framework that balances public health protection with feasible industry transition. The amendment includes three core components:

(1) Maintaining the existing VOC limits for wood products coatings and strippers;

(2) Establishing a prohibition schedule for pCBtF and t-BAc in wood coatings , including sell-through and use-through periods designed to address stranded inventory concerns; and

(3) Providing an optional PW-MIR compliance pathway.

Under this structure, the six coating categories identified as containing pCBtF and strippers will have applicable alternative PW-MIR limits in addition to the existing mass-based VOC limits, providing additional reformulation flexibility, maintaining product performance, and minimizing the impact to air quality.

PAR 1136 also retains an alternative compliance pathway for facilities using an approved Air Pollution Control System that achieves equivalent VOC emission reductions to the rule's VOC limits.

CHAPTER 1 : BACKGROUND

INTRODUCTION
REGULATORY HISTORY
AFFECTED INDUSTRIES
PUBLIC PROCESS

Introduction

Rule 1136 – Wood Products Coatings is a source-specific rule originally adopted on September 16, 1983, to reduce emissions of VOCs from coatings, strippers, and solvents used in the manufacturing, refinishing, and maintenance of wood products such as furniture, cabinets, shutters, frames, and similar coated wood materials. Rule 1136 establishes VOC content limits and work practice standards for coating operations and surface preparation practices. The rule applies to any person or facility that manufactures, supplies, sells, solicits, or applies wood coatings or strippers within the South Coast Air Basin.

Over time, amendments to Rule 1136 have lowered VOC content limits, aligned definitions with South Coast AQMD's broader VOC reduction initiatives, and facilitated the transition from traditional nitrocellulose lacquer systems to lower-emitting alternatives. As VOC limits became more stringent, coating manufacturers increasingly relied on exempt solvents, most notably pCBtF and t-BAc, because their use does not contribute to the calculated VOC content of a coating.

In April 2017, the South Coast AQMD Stationary Source Committee recommended a precautionary approach when considering exempt compounds with potential toxic endpoints, prioritizing reductions in toxic exposure over further reductions in VOC emissions. OEHHA has identified toxic endpoints for both pCBtF and t-BAc. In response, South Coast AQMD has been working to phase out or minimize the use of these exempt compounds across all VOC rules. For Rule 1136, the current rule development has two primary goals: (1) to phase out the use of pCBtF and t-BAc in wood coatings and strippers wherever feasible, and (2) to maintain existing VOC limits while providing an alternative reactivity-based compliance pathway that supports reformulation without reliance on toxic exempt solvents.

To support this effort, staff conducted a manufacturer survey that identified six coating categories currently formulated with pCBtF and no coating categories using t-BAc. Staff also performed an analysis to establish equivalent Product-Weighted Maximum Incremental Reactivity (PW-MIR) limits for the six affected categories, recognizing that stripper reformulation may require additional flexibility due to limited available alternatives. PAR 1136 proposes a prohibition schedule for pCBtF and t-BAc, an optional PW-MIR compliance pathway, and maintains all existing VOC limits.

2022 Air Quality Management Plan (AQMP)

The 2022 AQMP adopted on December 2, 2022, set forth a path for improving air quality and meeting federal air pollution standards by striving for zero-NOx emission technologies across all sectors and lower VOC emissions where feasible. The 2022 AQMP included Control Measure CTS-01 Further Emission Reductions from Coatings, Solvents, Adhesives, and Lubricants (CTS01), which seeks to address the toxicity concerns of pCBtF and t-BAc and assess opportunities for VOC emission reductions[1]. PAR 1136 partially implements CTS-01 from the 2022 AQMP.

[1] https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-iv-a.pdf?sfvrsn=4bc2bd61_18

Regulatory History

Rule 1136 was adopted on September 16, 1983, and has been amended multiple times to address feasibility, availability of low-VOC technologies, and alignment with federal and state air quality objectives. Early amendments in 1988, 1994, and 1996 focused on reducing the VOC content of wood coatings, updating compliance schedules, and introducing waterborne and hybrid coating systems to achieve more aggressive VOC reductions. These amendments also incorporated transfer efficiency requirements, emissions averaging provisions, and clarifications to coating categories.

Past amendments were designed to phase in lower-emitting technologies over time, while allowing industry flexibility to transition from traditional high-solvent lacquers. During the 1990s, the rule was revised to reflect evolving coating technologies, mitigate challenges associated with waterborne conversion, and incorporate interim VOC limits for specific categories.

Although Rule 1136 has undergone several amendments, the rule has not received a major technical update since 1996. Since that time, newer South Coast AQMD VOC rules—such as Rules 1168, 1151, 1171, and 1107—have addressed the phase-out of pCBtF and t-BAc following OEHHA's identification of their toxic endpoints. PAR 1136 continues this agency-wide effort and establishes a contemporary compliance structure that maintains current VOC limits while addressing exempt-solvent toxicity.

Background on t-BAc and pCBtF

In 1994, U.S. EPA exempted pCBtF from the federal definition of a VOC due to its negligible photochemical reactivity. South Coast AQMD incorporated this exemption in 2014 by adding pCBtF to Rule 102, such that pCBtF is not considered a VOC unless otherwise specified in a South Coast AQMD rule.

In 2004, U.S. EPA similarly exempted t-BAc; however, South Coast AQMD did not grant a full exemption under Rule 102 due to toxicity concerns, instead allowing limited exemptions through source-specific rules such as Rule 1113.

In 2013, amendments to Rule 1113 directed staff to re-evaluate the t-BAc exemption based on emerging health concerns. In 2017, staff presented preliminary findings on t-BAc and pCBtF to the Stationary Source Committee (SSC), and the SSC subsequently directed staff to remove t-BAc exemptions following completion of OEHHA's health risk assessment and to evaluate pCBtF for potential carcinogenicity.

OEHHA finalized the t-BAc health risk assessment in 2018, concluding that its cancer risk was higher than previously estimated, and finalized the pCBtF assessment in 2020, identifying pCBtF as a potential carcinogen. In response, South Coast AQMD has taken action to prohibit these compounds through amendments to Rule 1168 in 2022, Rule 1151 in 2024, and Rule 1171 and 1107 in 2025.

Comparative Toxicity Context for pCBtF and t-BAc

Staff evaluated several regulatory approaches to address toxicity concerns associated with pCBtF and t-BAc, informed by how other compounds with identified toxic endpoints have historically been addressed under South Coast AQMD rules. Under Rule 102, VOC-exempt compounds may

be designated as Group II and restricted in source-specific rules when health or safety concerns are identified.

To support this evaluation, staff reviewed available toxicological benchmarks, including cancer potency and acute exposure indicators, to place pCBtF and t-BAc in context with other solvents that have been restricted or prohibited. This review indicates that pCBtF exhibits relatively elevated cancer risk potential, while t-BAc presents concerns related to short-term exposure, consistent with prior staff and OEHHA findings.

Based on this comparative assessment, staff determined that continued reliance on pCBtF and t-BAc is inconsistent with the South Coast AQMD's precautionary approach for toxic exempt compounds. Accordingly, PAR 1136 advances a phased prohibition framework that aligns with prior rulemakings and balances public health protection with feasible industry transition.

For Rule 1136, staff conducted a manufacturer survey in 2024 to evaluate solvent usage across coating categories. The survey showed:

- Six coating categories are formulated with pCBtF
- Zero categories utilize t-BAc
- PW-MIR analysis demonstrates a feasible reactivity-based compliance option for the six pCBtF categories

These findings support the need for a prohibition schedule and an alternative compliance option that enables reformulation while maintaining existing VOC limits.

Background on Paint Strippers

Some stripper formulations also rely on exempt-solvent systems, primarily methylene chloride, a Group II exempt compound under Rule 102. In May 2024, U.S. EPA finalized a regulation under the federal Toxic Substances Control Act (TSCA) that will prohibit the manufacture, processing, distribution, and use of methylene chloride for industrial and commercial wood refinishing wood applications taking effect by May 8, 2029. Under TSCA, U.S. EPA evaluates chemical substances to determine whether they present an unreasonable risk to human health or the environment under their conditions of use. When U.S. EPA determines that a chemical poses such a risk, TSCA authorizes U.S. EPA to impose restrictions or prohibitions to eliminate or reduce the risk. Methylene chloride has well-documented acute and chronic toxicity and has been associated with worker fatalities, particularly during paint stripping activities conducted in enclosed or poorly ventilated spaces.

Methylene chloride is currently allowed in limited paint stripper applications under Rule 1136. Staff is proposing to exempt existing facilities with permits that allow for the use of methylene chloride-based strippers from the Group II prohibition. Methylene chloride will have to be phased out when the federal prohibition goes into effect. Additionally, the alternative Composite Vapor Pressure limit for strippers is being retained and an alternative PW-MIR limit of 1.5 will be established to facilitate paint stripper reformulation. The alternative VOC limits will provide flexibility to the local facilities as they transition away from methylene chloride. Paint stripper reformulation presents unique feasibility challenges due to removal performance criteria.

Affected Industries

Rule 1136 applies to any person who manufactures, blends, packages, repackages, sells, offers for sale, supplies, distributes, uses, or applies any wood coating, stripper, or surface preparation material within the South Coast Air Basin. The affected industries include:

- Furniture and cabinet manufacturers
- Architectural millwork and wood fixture producers
- Shutter and frame manufacturers
- Wood refinishing and restoration operations
- Specialty and custom wood product fabricators
- Facilities applying coatings to composite or simulated wood materials

These facilities range from small family-owned shops to large manufacturing operations with multiple coating lines. The sector includes manufacturers that perform staining, sealing, filling, toning, priming, clear coating, and specialized finishing for a wide variety of residential, commercial, and institutional wood products.

Staff identified 516 facilities with active permits subject to Rule 1136. Among these, 21 facilities have a high potential to emit and are subject to Title V permitting requirements. Of the Title V facilities, approximately 10 have relatively high VOC emissions associated with the application of wood coatings. Facilities regulated under Rule 1136 are distributed throughout the South Coast AQMD region, and some are located in close proximity to sensitive receptors such as residential areas, and other populated locations.

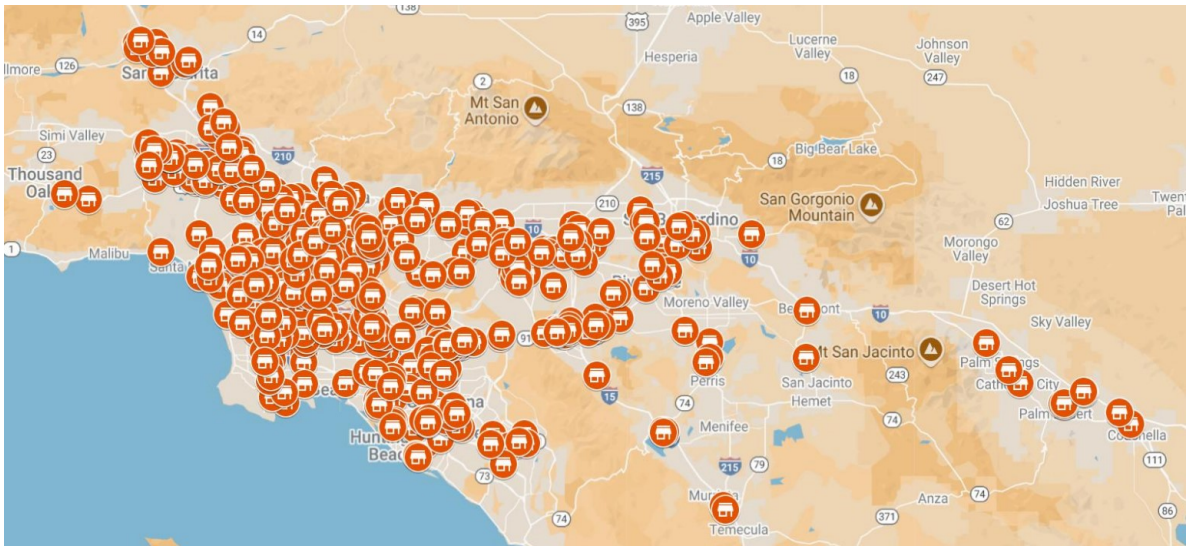

Figure 1-1: PAR 1136 facilities in South Coast AQMD

To characterize the use of exempt solvents and determine applicability, staff conducted a manufacturer survey that informed the development of the prohibition schedule and PW-MIR limits. This survey-based approach ensures that proposed amendments reflect current market conditions and allow for feasible reformulation pathways. The amendments proposed in PAR

1136 are expected to affect all manufacturers producing coatings for distribution in the South Coast Air Basin, as well as end users that apply these coatings.

Process Description

Rule 1136 applies to operations that manufacture, refinish, or maintain wood products using wood coatings, strippers, or associated surface preparation materials. These materials perform essential functions such as sealing, staining, priming, filling, and finishing to achieve required aesthetic and durability characteristics. Wood coatings are formulated to meet performance needs including adhesion, hardness, clarity, and resistance to moisture or abrasion.

As VOC limits tightened over time, manufacturers reformulated coatings to maintain product performance while complying with regulatory requirements. In several categories, exempt solvents primarily pCBtF were incorporated because they do not contribute to calculated VOC content.

Under PAR 1136, existing VOC limits are maintained. However, consistent with South Coast AQMD's precautionary approach for exempt compounds with identified toxic endpoints, the amendment introduces a phase-out schedule for pCBtF and provides an optional PW-MIR compliance pathway for the six coating categories identified through the manufacturer survey as containing pCBtF. No categories were identified as containing t-BAc. This framework allows continued compliance flexibility while reducing reliance on toxic exempt solvents.

Public Process

The rule amendment process for PAR 1136 began in July 2024. Staff conducted five Working Group Meetings and held multiple individual meetings with coating manufacturers, distributors, and wood finishing facilities. To support the technical assessment, staff distributed a manufacturer survey requesting formulation data for wood coatings and strippers, including VOC content, exempt solvent usage, and reactivity information. The table below summarizes the key topics discussed at each of the Working Group Meetings; presentations from those meetings are posted on the South Coast AQMD's website.[2] Rule development was paused between Working Group Meeting #3 and #4 due to shifting resources.

[2] https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1136

Table 1-1: Working Group Meetings

Meeting title	Date	Highlights
Working Group Meeting #1	July 9, 2024	• Rule background • Key amendment objectives • Exempt solvent background
Working Group Meeting #2	August 21, 2024	• Amendment progress update • Coating manufacturer survey
Working Group Meeting #3	December 10, 2024	• Amendment progress update • Coating manufacturer survey data analysis
Working Group Meeting #4	September 16, 2025	• Amendment progress update • Initial Rule Concepts • Initial Alternative PW- MIR
Working Group Meeting #5	December 10, 2025	• Amendment progress update • Rule concepts • Initial Preliminary Draft Rule Language

Additionally, staff conducted several site visits where various topics were discussed, including the types of wood coating materials used in the South Coast AQMD to gain a deeper understanding of wood coating industry operations and logistics. A summary of the site visits is provided in the table below.

Table 1-2: Site Visits

Stakeholder	Date
Disneyland	08/14/2024
Fender	09/03/2024
Sony Picture Studios	09/05/2024
Vista Paint Company	7/22/2025

As part of the PAR 1136 rule development process, staff met with coating manufacturers to further evaluate the survey data and gain a clearer understanding of industry practices. These meetings focused on clarifying manufacturer survey responses, assessing the extent of pCBtF and t-BAc usage within specific wood coating sectors, and discussing technical and operational challenges associated with prohibiting these compounds. Staff also discussed potential alternative compliance approaches and reformulation options, including the use of water-based coating technologies and reactivity-based VOC limits. Manufacturer meetings were held with

Axalta on June 25, 2025; Gemini on June 26, 2025; RPM ICG on July 16, 2025; and AkzoNobel on July 25, 2025.

CHAPTER 2 : TECHNOLOGY ASSESSMENT

WOOD COATING MATERIALS AND VOC CONTROL

WOOD COATING MATERIALS AND USE of pCBtF and t-BAc

Wood Coating Materials and VOC Control

Wood products coatings regulated under Rule 1136 are used in the manufacturing, refinishing, and maintenance of a wide range of products, including furniture, cabinets, shutters, architectural millwork, frames, and other coated wood materials. These coatings perform essential functions such as sealing, staining, priming, filling, toning, and finishing to achieve required aesthetic qualities, durability, and protection against moisture, abrasion, and environmental exposure.

Historically, wood coatings have relied heavily on solvent-borne formulations, particularly nitrocellulose lacquer systems, which contain a high proportion of organic solvents. During application and curing, these solvents evaporate and contribute to emissions of VOCs. As a result, wood product coating operations have been a significant source of VOC emissions within the South Coast Air Basin and have been subject to progressively more stringent regulatory requirements over time.

Rule 1136 establishes VOC content limits for wood coatings and strippers as the primary mechanism for controlling emissions. Unlike some source categories that rely on add-on air pollution control equipment, compliance with Rule 1136 has historically been achieved predominantly through material reformulation, improved application practices, and the use of compliant coating technologies. This structure reflects the diverse and decentralized nature of the wood products industry, which includes many small and medium-sized facilities where installation of add-on control systems is often impractical.

As VOC limits under Rule 1136 became more stringent through successive amendments, coating manufacturers reformulated products to maintain performance while reducing regulated VOC content. Early compliance strategies included the transition from traditional high-solvent formulations to waterborne, ultraviolet (UV)-curable, and high-solids coatings. These alternatives significantly reduced VOC emissions but required changes in application techniques, drying conditions, and finish management practices.

In parallel, manufacturers increasingly relied on compounds exempted from the regulatory definition of VOC to further reduce calculated VOC content while preserving solvent-based performance characteristics. Two exempt solvents, pCBtF and t-BAc, were widely used in multiple coating categories because they provided favorable evaporation rates, solvency, and film-forming properties without counting toward regulatory VOC limits.

While the use of exempt solvents facilitated compliance with mass-based VOC limits, subsequent toxicological evaluations identified health concerns associated with certain exempt compounds. These findings prompted a shift in regulatory focus from solely controlling ozone precursor emissions to also addressing potential toxic exposure risks associated with exempt-solvent use.

The current amendment to Rule 1136 reflects this shift in regulatory priorities. Rather than further tightening mass-based VOC limits, PAR 1136 is designed to reduce reliance on exempt solvents with identified toxic endpoints while maintaining the existing VOC control framework. This approach recognizes that the South Coast Air Basin is currently a nitrogen oxides (NO_x)-limited environment, where additional VOC reductions from this source category are less effective toward achieving ozone attainment goals.

To support this effort, staff conducted a manufacturer survey to characterize current formulation practices across wood coating and stripper categories. Survey responses indicated that six

coating categories; Clear Sealers, Clear Topcoats, Pigmented Primers, Sealers & Undercoats, Pigmented Topcoats, High-Solid Stains, and Low Solid Stains, Toners, and Washcoats, currently rely on pCBtF in their formulations, while no coating categories were identified as using t-BAc. The survey also indicated that reformulation of strippers presents greater feasibility challenges due to limited performance-equivalent alternatives and the critical role of solvent strength in coating removal.

These findings informed the development of a regulatory approach that focuses on eliminating the use of pCBtF and t-BAc while preserving compliance flexibility and minimizing disruption to the wood coatings marketplace

Reformulating wood coatings presents technical challenges that vary by coating type, substrate, and application method. Performance attributes such as adhesion, clarity, color development, grain raising, hardness, and repairability are highly sensitive to solvent composition. Changes in formulation can affect drying time, finish appearance, production throughput, and compatibility with existing equipment.

Waterborne and other low-VOC technologies have been successfully adopted in many applications, particularly for topcoats and primers. However, certain coating categories—such as high-solids stains and specialized finishing materials—continue to face reformulation constraints. These constraints are driven by substrate variability, environmental conditions, and customer performance expectations rather than a lack of regulatory incentive.

Stripper formulations present additional challenges because their effectiveness depends on solvent penetration, dwell time, and removal efficiency. Alternatives to traditional solvent systems may require longer processing times or additional mechanical action, which can limit feasibility for some users.

Recognizing these constraints, PAR 1136 is structured to allow multiple compliance pathways while phasing out the use of pCBtF and t-BAc in coatings and providing regulatory flexibility as U.S. EPA prohibits the use of methylene chloride for paint strippers.

Product-Weighted Maximum Incremental Reactivity (PW-MIR) Compliance Pathway

A key component of the amended rule is the introduction of an optional PW-MIR compliance pathway for selected coating categories. PW-MIR is a reactivity-based metric that reflects the ozone-forming potential of a product based on the weighted reactivity of all VOC ingredients in the formulation.

Under PAR 1136, PW-MIR limits are established only for coating categories identified through the manufacturer survey as containing pCBtF. These limits were derived through equivalency analyses to ensure that compliance using PW-MIR achieves an ozone impact comparable to compliance with existing mass-based VOC limits. The PW-MIR pathway is optional and does not replace or modify the existing VOC content limits.

MIR values used to calculate PW-MIR are published by CARB and represent the relative ozone-forming potential of individual VOCs. PW-MIR is calculated by weighting each VOC's MIR value by its proportion in the product formulation, resulting in a single metric that represents the overall ozone-forming potential of the product. This approach allows the rule to distinguish

between VOCs with substantially different reactivities rather than treating all VOCs equally on a mass basis.

This approach provides manufacturers with additional reformulation flexibility by allowing substitution of lower-toxicity VOCs with known reactivity characteristics, rather than relying on exempt solvents. By maintaining existing VOC limits and offering PW-MIR as an alternative pathway, the rule avoids backsliding while supporting feasible transitions away from toxic exempt compounds.

The PW-MIR framework has been used in prior South Coast AQMD rulemakings, including Rules 1151 and 1171, to support equivalent or greater ozone protection while providing flexibility during reformulation. Consistent with those rules, PW-MIR under PAR 1136 is offered as an alternative compliance option and is designed to achieve equal or lower ozone formation compared to traditional mass-based VOC limits.

For strippers used on wood products, the amended rule provides additional flexibility by allowing compliance through either existing VOC content limits, existing Composite Vapor Pressure limit, or newly proposed PW-MIR VOC limits.

In summary, Rule 1136 relies on a reformulation-based compliance strategy that reflects the structure of the wood products industry and the technical characteristics of wood coatings and strippers. The amended rule:

- Maintains existing mass-based VOC limits;
- Establishes a prohibition schedule for pCBtF and t-BAc with sell-through and use-through provisions; and
- Introduces optional PW-MIR VOC limits for select coating categories and strippers.

This layered compliance framework balances public health protection with technical feasibility, allowing the wood coatings sector to transition away from toxic exempt solvents while maintaining product performance and regulatory compliance

Wood Coating Materials Manufacturer pCBtF and t-BAc Survey

To understand the extent of the use of pCBtF and t-BAc to comply with the VOC limits in Rule 1136, staff conducted a survey, in August 2024, of manufacturers who sell wood coating materials subject to Rule 1136. The main compounds of interest in the survey were pCBtF and t-BAc. The results of the survey were used to help evaluate VOC content limits, VOC emissions, a potential prohibition timeline, and future effective VOC content limits. The table below shows the survey questions.

Table 2-1: Wood Coating Materials Survey Questions

Requested Information	
1.	Company name, contact person, and an email address
2.	Product name
3.	Product category
4.	VOC content of product (regulatory and actual)
5.	Is the product water or solvent based
6.	Percent content of pCBtF and/or t-BAc
7.	Annual sold volume and if that volume represents South Coat AQMD or California

In total, four wood coating materials manufacturers responded to the survey distributed as part of the PAR 1136 rule development process. Rule 1136 currently includes 14 categories covering sealants, topcoats, primers, fillers, inks, cleaning solvents, and other coatings. The following summarizes the major findings of the survey:

- A total of 517 wood coating materials from seven categories were reported to be sold within the South Coast AQMD jurisdiction. The table below summarizes the main product categories identified in the survey and the number of products reported within each category.

Table 2-2: Summary of the Number of Products Reported in Survey

Category	# of Products Reported
Clear Sealers	22
Clear Topcoat	159
Pigmented Primers, Sealers & Undercoats	31
Pigmented Topcoats	126
Fillers	8
High-Solid Stains	72
Low Solid Stains, Toners, and Washcoats	99

- Survey responses indicated that six of the seven reported coating categories contained products formulated with pCBtF. No coating categories were reported to contain t-BAc.

- Approximately 79 percent of reported products were solvent-based, and products containing pCBtF accounted for approximately 85 percent of reported sales volume.
- Reported pCBtF content ranged from approximately 8 to 90 percent by weight, depending on coating category and formulation.
- Several coating categories including barrier coats for plastic components, composite wood edge fillers, extreme performance coatings, inks, mold-seal coatings, multi-colored coatings, and low-solids barrier coats were not reported as sold in the survey.
- Absent additional data, staff assumes that pCBtF and t-BAc are not required to comply with VOC limits in those categories.
- The following figures illustrate the distribution of sales volume for products containing pCBtF compared to products formulated without pCBtF for major coating categories.

Table 2-3: Sales Volume of All Reported Products by Category

Category	# of Reported Products	Gallons Products Sold
Clear Sealers	22	46,600
Clear Topcoats	159	106,900
Pigmented Primers, Sealers & Undercoats	31	46,600
Pigmented Topcoats	126	58,400
Fillers	8	Protected Data[3]
High-Solid Stains	72	Protected Data
Low Solid Stains, Toners, and Washcoats	99	4,300
Total	517	263,660

Based on survey data submitted, pCBtF use was identified in the following six coating categories:

- Clear Sealers
- Clear Topcoats
- Pigmented Primers, Sealers, and Undercoats
- Pigmented Topcoats
- High-Solid Stains
- Low-Solid Stains, Toners, and Washcoats

[3] Protected Data indicates the data is confidential with less than three manufacturers reported sales

These categories represent the majority of reported product sales and form the basis for staff's evaluation of reformulation feasibility and alternative compliance approaches under PAR 1136. In contrast, fillers were reported to contain neither pCBtF nor t-BAc and represent a small fraction of total sales, indicating that early prohibition is feasible for that category.

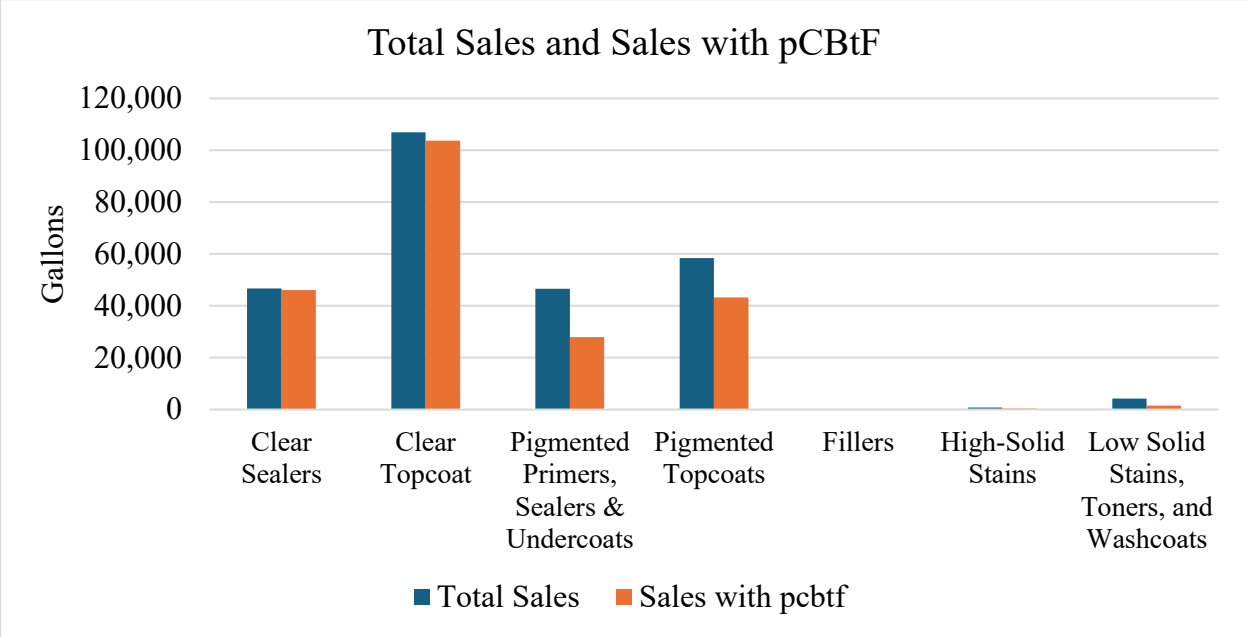

Figure 2-1: Total Sales Volume and Sales Volume Containing pCBtF by Category

Not all VOCs have equal ozone-forming potential. Traditional mass-based VOC limits treat exempt compounds as zero and non-exempt compounds as fully contributing, without regard to relative reactivity. To evaluate ozone-formation potential more directly, staff assessed coatings using MIR, which quantifies the grams of ozone formed per gram of VOC emitted.

Using survey data and safety data sheets, staff calculated PW-MIR values for coatings in each reported category. MIR values were provided directly by manufacturers for some products and estimated for others where formulation data were available.

The analysis showed that:

- Clear topcoats generally exhibited higher PW-MIR values than pigmented topcoats, likely due to higher solids content.
- High-solid and low-solid stains exhibited elevated PW-MIR values driven by aromatic hydrocarbons with high MIR values.
- Categories with similar mass-based VOC limits exhibited substantially different PW-MIR values.

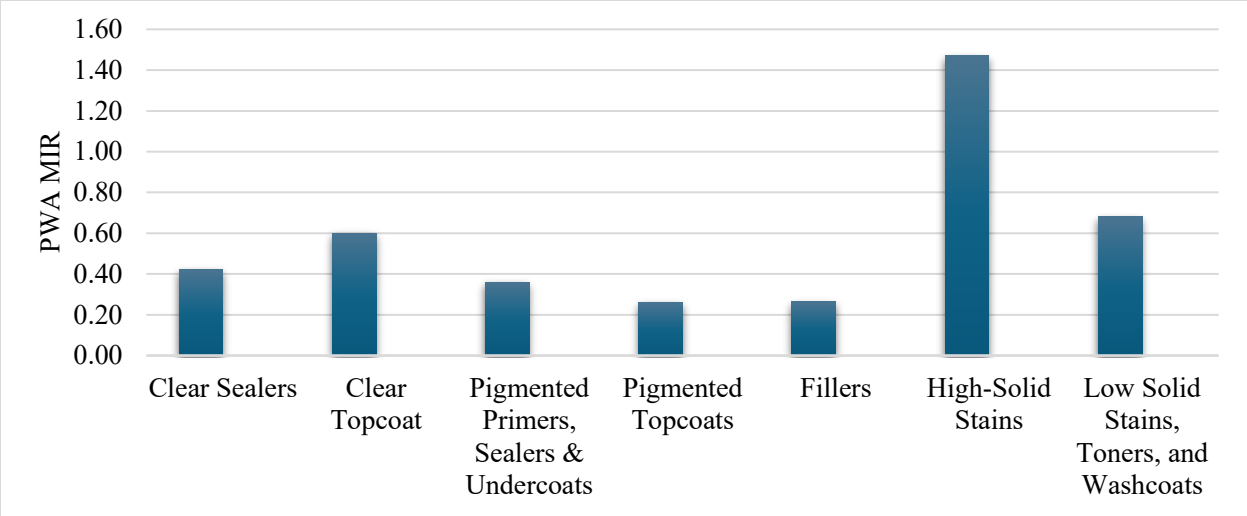

Figure 2-2: Average Product-Weighted MIR (PW-MIR) by Coating Category

Based on the PW-MIR analysis, staff developed optional alternative PW-MIR limits for coating categories identified as containing pCBtF. Reactivity-based limits can achieve ozone-equivalent outcomes while allowing additional formulation flexibility. These limits are designed to be equivalent to existing mass-based VOC limits in terms of ozone-forming potential, not more stringent.

Under PAR 1136:

- Existing mass-based VOC limits remain unchanged.
- PW-MIR limits are optional and apply only to specific coating categories.
- Manufacturers may comply with either the mass-based VOC limit or the PW-MIR limit.
- PW-MIR limits allow substitution of lower-toxicity VOCs without increasing ozone impacts.

PW-MIR limits are a new compliance approach for South Coast AQMD VOC rules, and staff will monitor implementation and market response over time.

Table 2-4: Summary of PW-MIR Values and Existing VOC Limits by Category

Product Category	PWA MIR ($g O_3$/ g Product)	Category VOC Limit (g/L)
Clear Sealers	0.53	275
Pigmented Primers, Sealers & Undercoats	0.60	275
Clear Topcoats	0.53	275
Pigmented Topcoats	0.46	275
Fillers	0.16	275
High-Solid Stains	1.87	350
Low-Solid Stains, Toners & Washcoats	1.03	120

PAR 1136 proposes a future effective prohibition on the manufacture, sale, and use of wood coatings containing pCBtF and t-BAc. Based on stakeholder input and market considerations, staff proposes a structured transition that includes:

- A future manufacturing prohibition date,
- A sell-through period for products already in the supply chain, and
- A use-through period to allow end users to exhaust existing inventory.

These provisions are intended to minimize stranded assets while allowing sufficient time for reformulation and transition.

In addition to pCBtF and t-BAc, PAR 1136 includes a future effective prohibition on Group II exempt compounds, with a prohibition schedule aligned with the pCBtF and t-BAc phase out. Most South Coast AQMD coating and solvent VOC rules that have been amended relatively recently, include a prohibition on Group II exempt compounds due to their potential toxicity. Rule 1136 did not include a prohibition, so a future effective prohibition has been included. Based on staff research and manufacturer feedback, these compounds are not currently being used in Wood Coatings, other than methylene chloride use as a paint stripper. Methylene chloride is being phased out at the federal level, so methylene chloride use will not be prohibited for use in strippers until the federal phase out.

Staff is including colorants in PAR 1136 and providing a longer compliance timeline in response to stakeholder comments requesting additional time to address reformulation challenges associated with removing pCBtF and t-BAc from colorants used across multiple coating systems. Stakeholders indicated that reformulating colorants requires additional research, development, testing, and field validation to ensure compatibility and performance within compliant coating formulations. Consistent with approaches adopted in other South Coast AQMD coating rules, staff determined that providing a separate, extended compliance schedule for colorants appropriately balances technical feasibility with regulatory certainty and public health protection.

Table 2-5: Proposed Prohibition Schedule for Wood Coatings and Strippers

Category	Final Manufacturer Date	Sell-Through Date	Use-Through Date
Wood Coating Materials	[Three Years after Date of Rule Adoption]	[Four Years after Date of Rule Adoption]	[Five Years after Date of Rule Adoption]
Colorants	[Five Years after Date of Rule Adoption]	[Six Years after Date of Rule Adoption]	[Seven Years after Date of Rule Adoption]
Strippers	[Two Months after Date of Rule Adoption]	[One Year after Date of Rule Adoption]	[Two Years after Date of Rule Adoption]

CHAPTER 3 : SUMMARY OF PROPOSALS

INTRODUCTION
PROPOSED AMENDED RULE STRUCTURE
PROPOSED AMENDED RULE 1124

Introduction

The main objective of the proposed amendments to Rule 1136 is to phase out the use of pCBtF and t-BAc in wood coating materials and strippers, as directed by the South Coast AQMD's Stationary Source Committee, due to toxicity concerns.

Staff is proposing the following amendments to Rule 1136. The proposed amendments primarily pertain to the prohibition of pCBtF and t-BAc use in the regulated products and the introduction of alternative compliance pathways, including the use of reactivity-based VOC limits. Some other amendments are for the purpose of rule clarification or streamlining. The proposed revised rule structure and key provisions are discussed in the following sections.

Proposed Amended Rule Structure

(a) Purpose
(b) Applicability
(c) Definitions
(d) Requirements
(e) Alternative Emission Control Plan
(f) Prohibition of Possession, Specification, Sale or Use
(g) Administrative Requirements
(h) Test Methods
(i) Continuous Monitors
(j) Rule 442 Applicability
(k) Exemptions

Proposed Amended Rule 1136

Purpose [Subdivision (a)]

The purpose of this rule is to reduce VOC emissions from the application of wood coating materials and strippers to wood products.

No significant revisions were made to this subdivision. The subdivision previously combined with the Applicability subdivision; however, staff separated the two into separate subdivisions to be consistent with the structure of similar South Coast AQMD VOC rules. Staff capitalized defined terms to indicate that definitions for the associated terms can be found in the Definitions subdivision.

Applicability [Subdivision (b)]

Subdivision (b) updates the applicability section to align with the structure and terminology used in other South Coast AQMD VOC rules. The revisions clarify that PAR 1136 applies to any Person who supplies, sells, offers for sale, markets, manufactures, blends, packages, repackages, possesses, or distributes any Wood Coating Material or Stripper for use within the South Coast AQMD, as well as any owner or operator of a Facility who uses, applies, or solicits the use or application of such materials.

Staff updated applicability for consistency across other VOC rules. Staff also capitalized defined terms to indicate that definitions for the associated terms can be found in the Definitions subdivision.

Definitions [Subdivision (c)]

To provide clarity, definitions are used in the proposed amended rule as a proper noun to better distinguish defined terms from common terms. Refer to PAR 1136 for a complete list of definitions.

The following are new or revised definitions for Proposed Amended Rule 1136. For all definitions, refer to the preliminary draft of PAR 1136 released with the staff report. Accordingly, the following definitions will be added or revised:

MAXIMUM INCREMENTAL REACTIVITY (MIR) in paragraph (c)(32), which means: "the measure of the photochemical reactivity of a VOC, which estimates the weight of ozone produced from a weight of VOC expressed as grams of ozone per gram of VOC (g O_3/g VOC)."

This definition is added to support the introduction of reactivity-based compliance options in PAR 1136.

PRODUCT-WEIGHTED MIR (PW-MIR) in paragraph (c)(39), which means: "the sum of all weighted-MIR for all ingredients in a Wood Coating Material. The PW-MIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging) and calculated according to the following equations:

Weighted MIR (Wtd-MIR) ingredient = MIR × Weight Fraction ingredient

$PW\text{-}MIR = (Wtd\text{-}MIR)_1 + (Wtd\text{-}MIR)_2 + \ldots + (Wtd\text{-}MIR)_n$

Where:
MIR = ingredient MIR; and
1, 2, 3…n = each ingredient in the product up to the total n ingredients in the product."

This definition supports the optional alternative PW-MIR VOC limits established in subdivision (d).

EXEMPT COMPOUNDS in paragraph (c)(17) is retained but revised to clarify applicability to Group II Exempt Compounds subject to prohibition under PAR 1136.

STRIPPER in paragraph (c)(46) is retained and revised to clarify applicability to prohibition provisions and alternative compliance options evaluated under PAR 1136.

VOC COMPOSITE VAPOR PRESSURE in paragraph (c)(49) is retained; however, staff is evaluating sunsetting the vapor-pressure-based compliance pathway for Strippers in favor of PW-MIR-based limits. The definition is retained for enforceability during the transition period.

WOOD COATING MATERIAL in paragraph (c)(52) is retained and clarified to ensure applicability to all coating categories subject to PW-MIR limits and prohibition provisions.

Requirements [Subdivision (d)]

This subdivision contains the provisions for any person or facility that applies any wood coating material or stripper to any operation associated with the manufacture, finishing, refinishing, or maintenance of wood products.

Paragraph (d)(1) – VOC Content of Wood Coating Materials and Strippers

Paragraph (d)(1) establishes VOC content limits for Wood Coating Materials and Strippers by coating category, as specified in Table 1 – Table of Standards and Table 2 – Table of Standards for Low Solids Coatings and Strippers VOC Limits. Staff is not proposing to modify the existing mass-based VOC content limits for Wood Coating Materials and Strippers.

Wood Coating Materials must comply with either the applicable Regulatory VOC limits specified in Table 1, or, in lieu of complying with the applicable mass-based VOC limits, may comply with the alternative Product-Weighted Maximum Incremental Reactivity (PW-MIR) VOC limits specified in Table 1 or Table 2 for low solids. MIR values for individual VOCs are specified in Sections 94700 and 94701, Title 17, California Code of Regulations.

Strippers must comply with either the applicable Regulatory VOC limits specified in Table 2, or in lieu of complying with the applicable mass-based VOC limit, may comply with the alternative PW-MIR VOC limit, or composite vapor pressure specified in Table 2.

Strippers will also be subject to the prohibition provisions for pCBtF and t-BAc in subdivision (f), including applicable phase-out, sell-through, and use-through requirements.

The alternative PW-MIR compliance pathway provides an additional compliance option while maintaining equivalent ozone-forming potential compared to the existing mass-based VOC limits. Products complying with either mass-based or PW-MIR limits are subject to the prohibition provisions for pCBtF and t-BAc in subdivision (f).

Table 3-1: Summary of the VOC Limits

Coating Categories	Regulatory VOC limits		lbs VOC/ lb of solids	Alternative PW-MIR Limit
	g/L-Coating	**lb/gal-Coating**		**g O_3/g product**
Primer, Sealer, and Undercoats (PSU)				
Clear PSU	275	2.3	0.36	0.53
Pigmented PSU	275	2.3	0.21	0.60
Topcoats (including extreme performance)				
Clear Topcoats	275	2.3	0.35	0.53
Pigmented Topcoats	275	2.3	0.25	0.46
Other Categories				
High-Solids Stains	350	2.9	0.42	1.87
Inks	500	4.2	0.96	N/A
Mold-Seal Coatings	750	6.3	4.2	N/A
Fillers	275	2.3	0.18	N/A
Japans	350	2.9	0.42	N/A
Other Coatings	275	2.3	0.3	N/A

Table 3-2: Table of Standards for Low Solids Coatings and Strippers VOC Limits

	Actual VOC Limits		Alternative PW-MIR Limit	Composite Vapor Pressure
	g/L-Material	**lb/gal-Material**	**g O_3/g product**	mmHg (0.04 psia) or less at 20^{o}C (68^{o}F)
Low-Solids Barrier Coat – Plastic Component	120	1.0	N/A	N/A
Low-Solids Stains, Toners, and Washcoats	120	1.0	1.03	N/A
Strippers	350	2.9	1.5	2

Prohibition of Possession, Specification, Sale or Use [Subdivision (f)]

Subdivision (f) includes new provisions that establish prohibitions on the manufacture, sale, distribution, possession, and use of Wood Coating Materials and Strippers containing specified toxic exempt compounds, including pCBtF and t-BAc, as well as other Group II Exempt Compounds. These prohibitions apply after the applicable Manufacturer Prohibition Dates specified in Table 3 – Prohibition Schedule.

Paragraph (f)(1) prohibits any person from manufacturing, supplying, selling, offering for sale, marketing, blending, distributing, packaging, or repackaging Wood Coating Materials or Strippers for use within the South Coast AQMD that contain Group II Exempt Compounds, volatile methylated siloxanes above specified thresholds, or pCBtF and/or t-BAc above the specified concentration limits. This paragraph also prohibits facility owners or operators from possessing, applying, or soliciting the use of non-compliant materials after the applicable prohibition dates.

Paragraph (f)(2) establishes sell-through and use-through provisions for Wood Coating Materials and Strippers manufactured prior to the applicable Final Manufacture Dates. These provisions allow materials containing pCBtF and/or t-BAc that were manufactured before the prohibition date to be sold through the supply chain and used at facilities until the applicable Sell-Through and Use-Through Dates specified in Table 3. This phased approach is intended to prevent stranded inventory while ensuring an orderly transition to compliant products.

Table 3 summarizes the prohibition schedule for Wood Coating Materials and Strippers, including the final manufacture, sell-through, and use-through dates.

Table 3-3: Prohibition Schedule

Category	Final Manufacture Date	Sell-Through Date	Use-Through Date
Wood Coating Materials	[*Three Years after Date of Rule Adoption*]	[*Four Years after Date of Rule Adoption*]	[*Five Years after Date of Rule Adoption*]
Colorants	[*Five Years after Date of Rule Adoption*]	[*Six Years after Date of Rule Adoption*]	[*Seven Years after Date of Rule Adoption*]
Strippers	[*Two Months after Date of Rule Adoption*]	[*One Year after Date of Rule Adoption*]	[*Two Years after Date of Rule Adoption*]

Administrative and Recordkeeping Requirements [Subdivision (g)]

Subdivision (g) contains existing provision that establish recordkeeping and labeling requirements necessary to ensure compliance with the VOC limits and alternative compliance options under Rule 1136.

Paragraph (g)(1) requires owners or operators of facilities to maintain records in accordance with Rule 109 – Recordkeeping for Volatile Organic Compound Emissions. These records support compliance verification and enforcement.

Paragraph (g)(2) applies to facilities complying with VOC limits expressed in pounds of VOC per pound of solids and requires additional documentation of VOC content in that format, in addition to the general recordkeeping requirements of Rule 109.

Paragraph (g)(3) requires that all Wood Coating Materials and Strippers sold or distributed for use within the South Coast AQMD be labeled in accordance with Rule 443.1 – Labeling of Materials Containing Organic Solvents. This ensures that product information necessary for compliance determination is readily available.

Paragraph (g)(4) is a new provision to establish additional labeling requirements for Wood Coating Materials that elect to comply with the alternative Product-Weighted Maximum Incremental Reactivity (PW-MIR) VOC limits. For these materials, manufacturers and suppliers are required to include the PW-MIR VOC content, expressed as grams of ozone per gram of product (g O_3/g product), on all containers to facilitate compliance and enforcement.

Test Methods [Subdivision (h)]

Subdivision (h) is an existing subdivision that specifies the approved test methods for determining the VOC content of Wood Coating Materials and Strippers, quantifying Exempt Compounds, evaluating film build thickness and gloss, calculating VOC composite vapor

pressure, determining the efficiency of Air Pollution Control Systems, and verifying transfer efficiency for alternative coating application methods. The subdivision also establishes provisions for the use of multiple test methods and equivalent test methods.

As part of PAR 1136, the Test Methods subdivision has been reorganized and updated to improve clarity and consistency with other South Coast AQMD coating rules. The revised structure consolidates testing requirements into a single subdivision, updates references to current U.S. EPA, CARB, ASTM, and South Coast AQMD test methods, and removes outdated or redundant provisions from the existing rule. In addition, staff added South Coast AQMD Test Method 313 as an approved compliance option, which provides improved accuracy for determining VOC content in low-VOC coatings compared to U.S. EPA Method 24.

The proposed amendments also clarify the procedures for determining compliance when facilities elect to use Air Pollution Control Systems or alternative PW-MIR VOC limits, including requirements for measuring capture efficiency, control device efficiency, and transfer efficiency. In addition, the subdivision explicitly allows the use of equivalent test methods approved by the U.S. EPA, CARB, and the Executive Officer, and specifies that the most current approved version of each test method shall apply.

These updates ensure that compliance determinations under Rule 1136 are based on standardized, current, and enforceable testing procedures while maintaining flexibility to accommodate advances in analytical methods.

Continuous Monitors [Subdivision (i)]

Subdivision (i) includes new requirements to establish monitoring, recordkeeping, and calibration requirements for coating operations that use add-on control devices to comply with the VOC limits in paragraph (d)(1). Facilities subject to this provision are required to install and operate a continuous monitor, approved by the Executive Officer, for each add-on control device used to meet the applicable control requirements.

This subdivision requires that records from the monitoring devices, along with any additional data necessary to demonstrate compliance, be maintained on the premises for a minimum of two years and be made available to the Executive Officer upon request in a form and manner specified by the Executive Officer.

Compliance with paragraph (d)(1) may be demonstrated through source testing and/or the evaluation of continuous monitor data. To ensure data integrity, all monitoring devices must be calibrated in a manner approved by the Executive Officer and maintained in optimal working order.

Rule 442 Applicability [Subdivision (j)]

This provision is an existing subdivision that clarifies that any wood coating materials that is exempt from all or a portion of the VOC limits of subdivision (d), shall comply with Rule 442 – Usage of Solvents. This subdivision was not changed other than to capitalize defined terms and moved from subdivision (g) for consistency with other South Coast AQMD rules.

Exemptions [Subdivision (k)]

Subdivision (k) provides conditional exemptions from specific requirements of Rule 1136 where emissions are minimal, where operations are regulated under another applicable South Coast

AQMD rule, or where compliance with the rule would not provide meaningful emission reductions.

Staff removed several exemptions that were time-limited and are no longer applicable to current industry practices.

These include exemptions for classic guitar manufacturing, refinishing and custom replica furniture operations, and touch-up and repair coatings, all of which sunset between 1998 and 2005. Because these provisions have long expired, retaining them would add unnecessary complexity and could create confusion regarding enforceability.

Staff also removed obsolete recordkeeping and spray equipment exemptions tied to pre-2005 VOC limits and early transition provisions that are no longer relevant under the current regulatory framework. These exemptions were originally intended to facilitate early adoption of waterborne coatings and lower-VOC technologies and are no longer needed.

Staff added Japans as a separate coating category in Table 1 – Table of Standards, with a VOC content limit of 700 grams of VOC per liter of coating, less water and Exempt Compounds, as applied, to clearly codify the existing exemption and improve clarity and enforceability.

Paragraph (k)(7) is a new provision that provides a temporary exemption for strippers containing methylene chloride from the Group II Exempt Compound prohibition in subparagraph (f)(1)(A). Strippers containing methylene chloride may be manufactured, supplied, sold, offered for sale, marketed, distributed, packaged, repackaged, possessed, or used, until methylene chloride is phased-out under the U.S. Environmental Protection Agency's TSCA regulation. The prohibition for all other Group II exempts in subparagraph (f)(1)(A) will still apply to strippers, only methylene chloride will be allowed.

CHAPTER 4 : IMPACT ASSESSMENT

EMISSIONS IMPACT

COSTS

SOCIOECONOMIC IMPACT ASSESSMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

COMPARATIVE ANALYSIS

Emission Impacts

PAR 1136 establishes a prohibition and compliance schedule for the phase out of pCBtF and t-BAc in wood coating materials and strippers while maintaining the existing mass-based VOC limits for most coating categories. PAR 1136 also introduces alternative PW-MIR VOC limits to provide manufacturers with an additional compliance pathway and formulation flexibility during the transition away from exempt solvents. As a result, limited short-term changes in mass-based VOC emissions may occur for certain products, while the overall ozone-forming potential is expected to remain comparable once reformulation is complete. Because the existing mass-based VOC limits are not being changed and the PW-MIR limits are designed to be equivalent alternatives to the current VOC limits, no long-term increase or decrease in VOC emissions are expected as a result of the proposed amendments to the rule.

Manufacturer survey data indicate that pCBtF is widely used to meet current VOC limits in several major wood coating categories, including clear and pigmented topcoats, primers, sealers, undercoats, and stains. Approximately 85 percent of total reported sales volume within the South Coast AQMD contain pCBtF, with reported pCBtF content ranging from 8 to 90 percent by weight. No use of t-BAc was reported in the survey responses.

Four manufacturers reported a total of 517 products sold within the South Coast AQMD, representing approximately 263,660 gallons per year across seven coating categories. Sales-weighted average VOC values by category were used to estimate baseline VOC emissions associated with Rule 1136-regulated coatings.

PAR 1136 affects approximately 516 permitted facilities, including 21 Title V facilities. Of these, approximately 10 facilities have relatively high VOC emissions from wood coating application operations. Staff used manufacturer survey data and available facility usage information to estimate VOC emissions by category, as summarized in the table below.

Table 4-1: Estimated VOC Emissions by Category Reported in Manufacturer Survey

Category	Annual Sales in South Coast (gal)	Emissions (tons per day)
Clear Sealers	46,600	0.130
Clear Topcoats	106,900	0.293
Pigmented Primers, Sealers & Undercoats	46,600	0.125
Pigmented Topcoats	58,400	0.151
Fillers	Protected Data	Protected Data
High-Solid Stains	Protected Data	Protected Data
Low Solid Stains, Toners, and Washcoats	4,300	0.005
Total	262,800	0.704

Costs

Reformulating wood coating materials to phase out toxic exempt solvents, such as pCBtF and t-BAc, requires manufacturer resources primarily associated with research and development, formulation adjustments, and product testing. These costs may include both initial reformulation efforts and follow-up adjustments as products are refined and optimized for performance and compliance.

Although solvents represent only one component of total raw material costs, pCBtF is generally more expensive than many conventional solvents due to its specialized production processes, limited supplier base, and VOC-exempt status. As a result, coatings formulated with pCBtF tend to be higher in cost relative to comparable formulations using non-exempt solvents. Over time, reformulated coatings that replace pCBtF with lower-cost solvents may partially offset reformulation costs through reduced material expenses.

To estimate reformulation costs for PAR 1136, staff relied on the methodology developed in the 2022 amendment to Rule 1168 and subsequently applied in PAR 1107. Under this approach, reformulation costs are estimated using a 20 percent cost factor, consistent with prior South Coast AQMD VOC rulemakings, applied to the volume of products requiring reformulation.

Based on manufacturer survey data, approximately 224,000 gallons per year of wood coating materials sold into the South Coast AQMD contain pCBtF and would require reformulation under PAR 1136. Applying the same volume-based methodology used in Rule 1168, staff estimates total reformulation costs of approximately $288,400. Based on manufacturer feedback, the reformulation time and cost could be lower when working towards complying with the PW-MIR VOC limits.

These costs are expected to be incurred primarily by coating manufacturers, most of which are located outside the South Coast AQMD jurisdiction, and recovered over time through product sales. Consistent with prior VOC rule amendments, staff anticipates that the overall compliance costs and associated socioeconomic impacts of PAR 1136 will be minimal to none within the South Coast AQMD region.

Socioeconomic Impact Assessment

A socioeconomic impact assessment will be conducted and released for public review and comment at least 30 days prior to the South Coast AQMD Governing Board Hearing on PAR 1136, which is scheduled for April 3, 2026 (subject to change).

California Environmental Quality Act (CEQA)

Pursuant to the California Environmental Quality Act (CEQA) and South Coast AQMD's certified regulatory program (Public Resources Code Section 21080.5, CEQA Guidelines Section 15251(l); codified in South Coast AQMD Rule 110), the South Coast AQMD, as lead agency, is reviewing the proposed project (PAR 1136) to determine if it will result in any potential adverse environmental impacts. Appropriate CEQA documentation will be prepared based on the analysis.

Draft Findings Under the Health and Safety Code

Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, nonduplication, and reference, as defined in that section, based on relevant information presented at the hearing, this written analysis, and the rulemaking record. The draft findings are as follows:

Necessity – A need exists based on the Stationary Source Committee's direction to address the toxic risk of currently exempt compounds pCBtF and t-BAc in existing operations.

Authority – The South Coast AQMD 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 – Proposed Amended Rule 1136 – Wood Products Coatings, is written and displayed so that the meaning can be easily understood by persons directly affected by it.

Consistency – Proposed Amended Rule 1136 – Wood Products Coatings, is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or federal and state regulations.

Nonduplication – Proposed Amended Rule 1136 – Wood Products Coatings, 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 South Coast AQMD.

Reference – In amending this rule, the South Coast AQMD Governing Board references the following statutes which the South Coast AQMD hereby implements, interprets, or makes specific: Health and Safety Code Sections 40001, 40440, and 40702.

Comparative Analysis

Under Health and Safety Code Section 40727.2, the South Coast AQMD is required to perform a comparative analysis when adopting, amending, or repealing a rule or regulation. The comparative analysis is relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to VOC regulations for wood products coatings. A comparative analysis will be prepared and

released at least 30 days prior to the South Coast AQMD Governing Board Hearing on PAR 1136, which is anticipated to be heard on April 3, 2026.