SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Preliminary Draft Staff Report
Proposed Amended Rule 1113– Architectural Coating

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ACRONYMS USED IN THIS REPORT

ACA American Coatings Association

AQMD South Coast Air Quality Management District

AQMP Air Quality Management Plan

Avg Average

CARB California Air Resources Board

CEQA California Environmental Quality Act

EIP Economic Incentive Program

g/l Grams per Liter

IM Industrial Maintenance

NOx Oxides of Nitrogen

NSAG Non-Sacrificial Anti-Graffiti Coatings

OEHHA Office of Environmental Health Hazard Assessment

PAR Proposed Amended Rule

PCBTF Parachlorobenzotrifluoride

ppd Pounds per day

SAG Sacrificial Anti-Graffiti Coatings

SCM Suggested Control Measure

SIP State Implementation Plan

SWA Sales Weighted Average

tBAc Tertiary-Butyl Acetate

tpd Tons per day

tpy Tons per year

EPA United States Environmental Protection Agency

VOC Volatile Organic Compound

EXECUTIVE SUMMARY

Rule 1113 - Architectural Coatings was originally adopted by the AQMD on September 2, 1977, to regulate the Volatile Organic Compound (VOC) emissions from the application of architectural coatings, and has since undergone numerous amendments. Rule 314 – Fees for Architectural Coatings was adopted on June 6, 2008 requiring manufacturers to pay fees as well as report sales and emissions of architectural coatings into the AQMD. Based on the 2008 and 2009 sales data collected from Rule 314, documents from CARB, numerous site visits, technical research, and working group meetings, staff has developed PAR 1113 in regards to the following:

- remove outdated language;
- clarify existing definitions and requirements;
- propose new categories with VOC limits;
- reduce the VOC content limits of certain architectural coating categories;
- propose to limit the VOC content of previously unregulated colorants used to tint coatings at the point of sale;
- consider revisions to the Averaging Compliance Option (ACO) and Small Container Exemption (SCE); and
- prohibit the storage of non-compliant coatings at worksites.

Staff has held four working group meetings with stakeholders over the past six months, as well as met with individual architectural coating manufacturers and the American Coatings Association (ACA), previously the National Paints and Coatings Association. Based on the ACA's recommendation, staff conducted an intensive survey on the use of colorant. The current proposal incorporates and addresses numerous comments and concerns expressed by the stakeholders.

Staff proposes the following amendments to achieve emissions reductions and clarify rule implementation issues for improved enforceability:

- Change the applicability of the rule by eliminating the phrase 'for use', including market for sale and adding language to include storing coatings at worksites.

- Add 15 definitions; amend 10 definitions, and delete 3 definitions:

    - Add – Concrete Surface Retarder; Driveway Sealer; Faux Finishing subcategories: Glaze, Decorative Coating, Trowel Applied Coating, and Clear Topcoat; Form Release Compound; Gonioapparent; Manufacturer; Non-Sacrificial Anti-Graffiti Coating; Pearlescent; Pigmented; Retail Outlet; Sacrificial Anti-Graffiti Coating; and Worksite.

  - Amend – Architectural Coating, Faux Finishing Coating, Fire Proofing Coating, Floor Coating, Japans/Glazes, Sanding Sealers, Varnish, Volatile Organic Compound, and Waterproofing Concrete/Masonry Sealer.
  - Delete – Clear Brushing Lacquer, Fire Retardant Coating, Non-Flat High Gloss.

- Clarify the requirements in paragraphs (c)(1) and (c)(2)
- Reduce the VOC limit on the following categories:
  - Concrete Surface Retarders; Driveway Sealers; Default; Dry-Fog Coatings; Faux Finishes; Fire-Proofing Coatings; Form Release Compounds; Graphic Arts Coatings; Metallic Pigmented Coatings; Primers, Sealers, & Undercoater; and Specialty Primers.
- Add VOC limits for colorants added at the point of sale.
- Propose changes to the ACO provision:
  - Lower ceiling limits;
  - Limit coating categories that can be averaged; and
  - Consider complete phase out.
- Add a general prohibition against the use of Group II exempt solvents, other than cyclic, branched, or linear, completely methylated siloxanes (VMS).
- Include specific labeling requirements to improve the visibility of the VOC content.
- Remove reporting requirements that are now redundant with Rule 314.
- Add ASTM E 284 Standard Terminology of Appearance.
- Propose changes to the Small Container Exemption (SCE):
  - Clarify that the exemption only applies to the VOC limits;
  - Prohibit 'bundling' of the coatings sold on the retail shelves; and
  - Limit the number of categories that can use this exemption.
- Remove outdated rule language, including exemptions that have expired or requirements that have surpassed their effective date.
- Remove exemption for adding 10% VOC by volume to lacquers to prevent blushing on cool days with high humidity.

BACKGROUND

Architectural coatings are one of the largest non-mobile sources of VOC emissions in the AQMD. Rule 1113 is applicable to manufacturers, distributors, specifiers, and end-users of architectural coatings. These coatings are used to enhance the appearance of and to protect homes, office buildings, factories, pavements, curbs, roadways, racetracks, bridges; and other structures, and their appurtenances on a variety of substrates. The coatings may be applied primarily by brush, roller, or spray guns; and those applying architectural coatings include homeowners, painting contractors, or maintenance personnel. Rule 1113 was first adopted in 1977, and has undergone numerous amendments, most recently on July 15, 2007 to address the metallic pigmented coatings category. Although successive amendments to Rule 1113 contributed to significantly reduced emissions from this source category, architectural coatings continue to be one of the largest non-mobile sources of VOC emissions in the AQMD.

The 2007 Air Quality Management Plan (AQMP) projected that the 2010 Annual Average Emissions for architectural coatings would be 23 tons per day (tpd), with a Summer Planning Inventory of 27 tpd. That estimate is based on California Air Resources Board (CARB) 2001 survey of coatings sold in California in calendar year 2000; assuming 45% of those coatings were sold in the AQMD. The survey was updated in 2006 with 2004 sales data.

According to more recent Rule 314 data for products shipped in 2008 and 2009, the emissions in the AQMD that can be attributed to architectural coatings were 15 tpd and 12 tpd, respectively, and do not include VOC emissions from colorants added at the point of sale. Staff notes that the Rule 314 data has not been fully audited, and volumes and emissions may be under- or over-reported, and may be revised upon more detailed audits and subsequent compliance review. Furthermore, Rule 314 data indicates coatings sales volumes exemplifying impacts of the decline in economic activity, especially the local real estate market, which is the biggest driver for architectural coating usage. Table 1summarizes sales and emissions collected for Rule 314 for 2008 and 2009, as well as the 2005 CARB survey of coatings sold in the 2004 calendar year.

Table 2: Total Sales and Emissions by Type

Year	Total Annual Sales Volume			Percentage	
	Total	SB	WB	SB	WB
2008	39,006,780	2,815,527	36,191,253	7.2%	92.8%
2009	34,117,105	2,025,777	32,091,328	5.9%	94.1%
	-12.5%	-28.0%	-11.3%		
2004	44,304,827	7,607,795	36,697,032	17.2%	82.8%
Year	**Total Emissions (tpd)**			**Percentage**	
	Total	**SB**	**WB**	**SB**	**WB**
2008	15.05	6.51	8.54	43.3%	56.7%
2009	11.64	4.77	6.87	41.0%	59.0%
	-22.7%	-26.7%	-19.6%		
2004	49.4	28.9	20.5	58.5%	41.5&

Table 1 demonstrates that while the recession has adversely impacted the volume of coatings sold, there has been a sharper decrease in emissions versus sales volumes. This can partially be attributed to the Rule 314 fee structure which charges a higher fee for higher VOC coatings. It is also the result of increased consumer demand for low VOC products. The past decade has seen a significant shift in the marketplace, as consumers are seeking out low VOC products and willing to pay a premium for those products. The 2005 CARB survey is used to indicate the higher volume sales in 2004; however, while those sales do not necessarily represent the upper bounds of paint sales or economic activity, they do reflect pre-recession volumes.

RULE DEVELOPMENT PROCESS

Staff initiated outreach with stakeholders regarding the intent to amend Rule 1113 almost 18 months prior to the announcement of the first working group meeting in the summer of 2010. Initially, during the January 2009 regulatory meeting of the Paint and Related Materials session of the American Society for Testing and Materials (ASTM), staff presented preliminary concepts including regulating the colorants and looking for further VOC reductions. The concepts were

discussed with representatives from ACA and several major coatings manufacturers at the meeting.

In August 2009, staff began working on several surveys to determine the type of colorants that are currently being used to tint coatings at the point of sale for architectural and industrial maintenance applications. The goal was to gather information from manufacturers and retail outlets on the use and their experience with near-zero VOC colorants. The surveys were conducted while researching the feasibility of setting a VOC limit on colorants. The surveys were sent out in April 2010, after incorporating feedback from small and large manufacturers of coatings, pigment (colorant) suppliers, and the ACA. The first survey was a general survey sent to 288 contacts on the AQMD Rule 1113 subscribers list that are identified as architectural coatings manufacturers. According to Rule 314 reporting, there are approximately 200 manufacturers selling architectural coatings in the AQMD. The second survey was a targeted survey sent to 35 coating manufacturers who are listed on the AQMD Super-Compliant Coatings Manufacturers List. The third and final survey focused on retailers. The survey was sent electronically to 11 retailer contacts in the Rule 1113 subscribers list. In addition, hard copies of the survey were circulated to retail locations throughout the AQMD. The surveys were anonymous; therefore, no data from specific companies were recorded. The results of the survey can be found in Appendix A of this report.

In addition, over the past six months, staff held four working group meetings, including three sub-groups for more in-depth discussions on Anti-Graffiti Coatings, Faux Finishing Coatings, and VOC Test Methods. Numerous stakeholders participated both in person and via teleconference. Over the course of the discussions, the ACA and the manufacturers provided feedback on rule language, requirements, and appropriate effective dates for the rule proposal.

STAFF ASSESSMENT FOR THE PROPOSED AMENDMENTS

APPLICABILITY

To improve the enforceability of the rule, staff is proposing to alter the applicability section by removing the phrase ‘for use’ in subdivision (a). The proposed change is based on the reasonable assumption that a coating sold in the AQMD is going to be used in the AQMD. The change will strengthen rule enforceability by clarifying that compliance staff can require a retail outlet to remove coatings that are labeled as non-compliant from their shelves. In recent years, staff has found a considerable amount of non-compliant coatings being offered for sale at both small and large retailers. There have even been instances of retailers incentivizing the sale of these higher-VOC products through drastic price reductions in order to eliminate their inventory. This change will help ensure that non-complaint coatings are not being sold in the AQMD resulting in lower emissions from the application of architectural coatings.

A new requirement being proposed in the applicability section is to prohibit non-compliant coatings from being stored at a worksite. It is a reasonable assumption that coatings stored at a worksite are going to be used at that worksite. The proposed amendment will result in a reduction of non-compliant coatings used at worksites. Staff has worked with manufacturers to ensure that the change in applicability would not affect coatings being shipped through the AQMD en route to another jurisdiction. The rule already contains an exemption for coatings sold in the District for shipment outside of the District or for shipment to other manufacturers for repackaging. After several working group discussions, staff believes that the rule should not be prescriptive, and that a manufacturer may follow any procedure to demonstrate that a non-compliant coating is for shipment outside of the District. One procedure that was previously discussed is for the manufacturer to supply a notification to the next step in their supply chain, i.e. the direct downstream recipient, that the coatings are not intended to be used within the AQMD. Manufacturers can accomplish this in numerous ways such as: preprinted slips on the pallet, a statement on the product label, i.e. "not compliant in AQMD" or "not intended for sale in SCAQMD", or provide electronic warnings that the coatings are not intended for use in the AQMD. A manufacturer may choose to notify the direct downstream recipient with every shipment or whenever there is a change to a product that may affect the compliance status of the product.

Staff is also proposing to add the phrase “markets” in the applicability and requirement sections to address mail order coatings and e-commerce companies such as Amazon and E-Bay who do not sell the coatings themselves but markets them for sale on their website.

DEFINITIONS

For rule clarification, staff is proposing several new or amended definitions and is proposing to delete several definitions:

Architectural Coatings

Staff is proposing to add ‘roadways, racetracks, bridges, fields, and lawns’ both to the applicability section and to the definition of an architectural coating. The rule currently states that it applies to stationary structures or their appurtenances and to pavements and curves which includes ‘roadways, racetracks, bridges, fields, and lawns’. The proposed change is for rule clarification.

Faux Finishing/Japans

Staff is proposing to expand and enhance the definition of the Faux Finishing/Japan category. In recent years, there has been a sharp increase of decorative coatings being marketed to the homeowner such as, metallic coatings, suede coatings, plasters, etc. The current definition in Rule 1113 reflects the work that is done for studio painting with Japans and Glazes. Based on feedback during the initial working group meeting, staff developed a specific sub-group to discuss the Faux Finishing/Japan categorization. With the assistance from manufacturers

involved with the sup-group, staff has developed the following five distinct subcategories of coatings that create these effects:

Japans - traditionally used by professional artist for developing studio sets

Glazes – used for some commercial and residential decorative finishes

Decorative Coatings – used by consumers and sold at typical retail outlets

Trowel Applied Coatings – used by consumers and sold at typical retail outlets but with significantly lower VOC levels than typical decorative coatings

Clear topcoat – used to protect the Faux Finishing Coatings

Staff is proposing to add definitions for the five subcategories that will fall under the Faux Finishing category and amend the definition for a Japan coating.

In addition, staff is also proposing to add a definition for gonioapparent, and pearlescent, as well as a test method to measure the appearance of a coating. This proposal is to assist with rule enforcement and prevent circumvention. In 2002, Rule 1113 was amended to allow mica to be included in the metallic pigmented coating definition. The intent was to allow flexibility for the use of the mica pigments that create a pearlescent or metallic look. There is also a different grade of mica which serves as an extender or filler in coatings. By 2006, some manufacturers increased the concentration of the mica used as a filler, then claimed the coatings were metallic or metal fortified coatings. At that time, metallic coatings had a VOC limit of 500g/L, while non-flat coatings had a VOC limit of 150g/L or 50g/L depending on the gloss level. The gonioapparent requirement and test method is being proposed to demonstrate that a coating is pearlescent in order to prevent similar rule circumvention.

Fire-Proofing Exterior Coatings

Staff is proposing to remove the term 'exterior' both from the name of fire-proofing exterior coatings as well as from the definition. This is to address instances where the steel structure of a building requires touch up after the structure was enclosed in the building envelope. The way the definition is currently written, this would be prohibited. Staff would like to clarify the definition to allow this type of coating operation.

Manufacturer

Staff is proposing a definition for a manufacturer as a result of confusion regarding the Rule 314 requirement that requires *manufacturers* to report their sales annually to the AQMD. During initial rule implementation, there was some confusion over who was responsible for reporting the coating sales. Rule 314 applies to coating manufacturers, but does not define a manufacturer. In instances where coatings are toll manufactured for a private labeler, there was confusion as to who was responsible for the reporting and fees. Staff crafted the definition of a manufacturer in the PAR 1113 with assistance from the working group members. In

addition, staff will provide further clarification as to who is responsible for reporting in the instance of a toll manufacturer, when Rule 314 is amended later this year.

Pigmented

Staff is proposing to include a definition for "pigmented", as it is currently referenced in the following places in the rule: lacquers, metallic pigmented coatings, shellacs, waterproofing concrete/masonry sealers, and in the proposed definition of varnish.

Retail outlet

Staff is proposing to add a definition for retail outlet because this term was added to the exemption section. See the section on applicability for a discussion for why this definition was necessary.

Sanding Sealer

Staff is proposing to delete the labeling requirement on the sanding sealers for enforcement purposes.

Swimming Pool Coatings

For clarification, staff is proposing to include water park attractions, ponds and fountains to the definition of a swimming pool coating.

Volatile Organic Compound

Due to the partial SIP disapproval, staff is proposing to include record keeping requirements for the use of tertiary-Butyl Acetate (tBAc).

Waterproofing Concrete/Masonry Sealer

Staff would like to clarify the definition of a waterproofing concrete/masonry sealer to specifically include the 'wet look lacquers' that enhance the color and appearance of the stone. Current Rule 1113 interpretation is that these coatings are included in the definition, but the additional language makes this requirement explicit.

Worksite

Staff is proposing to add a definition for worksite because of the change in the applicability section to prohibit non-compliant coatings from being stored at worksites. See the section on applicability for further information.

COATING CATEGORIES

Clear Brushing Lacquers

Staff is proposing to subsume the clear brushing lacquers into the lacquer category, since the VOC limit of 275 g/l has been the same as the general lacquer category for more than three years, and the sell through period is no longer applicable.

Concrete Surface Retarders and Form Release Compounds

The two most common coatings that fall into the default category are the concrete surface retarders and the form release compounds. Staff is proposing to create separate categories for these coatings at a VOC limit of 50g/L and 100g/L respectively, the current default limit is 250g/L.

Concrete Surface Retarders

Concrete surface retarders are applied to freshly poured cement in order to prevent the surface from hardening. They are used so that the top layer can be washed away to expose the aggregate finish. Concrete surface retarders are included in the EPA Federal Register 40 CFR Part 59 National Volatile Organic Compound Emission Standards for Architectural Coatings (Federal AIM Rule) with a VOC limit of 780g/L; they are not included in the CARB Suggested Control Measure (SCM). Based on the data in Rule 314, there were only two manufacturers reporting coatings that were reported such that they could be identified as concrete surface retarders. There were two coatings reported in 2008 and two in 2009, one coating has a VOC content of 643g/L, the remaining were reported as zero VOC. In addition, there is another manufacturer that distributes concrete surface retarders into California with VOC content of 6g/L. The potential emissions reductions from removing the concrete surface retarders from the default category and reducing the VOC limit to 50g/L is 0.5 pounds per day (ppd) based on the 2008 data and zero based on the 2009 data. In 2009, all coatings that could be identified as concrete surface retarders were reported as zero VOC.

Form Release Compounds

Form release compounds are applied to a concrete form in order to prevent the freshly poured concrete from bonding to the form. Form release compounds are included in the Federal AIM rule and the SCM with a VOC limit of 450g/L and 250g/L respectively. According to the Rule 314 data, there were three manufacturers reporting sales of form release coatings in 2008 and four in 2009. Table 3 shows sales data, VOC information, and potential emission reductions for the products reported in Rule 314 (2008 & 2009 calendar years) and in the CARB survey of coatings sold in the 2004 calendar year.

Table 4: Form Release Compounds

Reporting Year	# of Products	VOC				Gallons sold	Potential Emissions Reductions (ppd)
		SWA	Max	Avg	Min		
2004	**-**	**233**	**-**	**-**	**-**	**145,625**	**589**
2008	9	121	246	122	0	24,756	48

2009	6	135	238	113	0	26,691	60

Driveway sealers

In the 2007 amendment to the SCM, one coating category was included that had a VOC limit lower than Rule 1113. According to the California Health and Safety Code §39002, local and regional authorities can establish stricter standards than those set by law or the state board for non-vehicular sources; therefore, a district cannot have a less stringent regulation than the SCM if they are in non-attainment with State or Federal Clean Air Standards. CARB included this category after an evaluation of their 2004 Architectural Coatings Surveys data indicated that 100% of Driveway Sealers were at or below 50g/L. In addition, they wanted to distinguish Driveway Sealers from Roof Coatings for future surveys. AQMD staff is proposing to include Driveway Sealers with a VOC limit of 50g/L. Currently, Driveway Sealers would be categorized under the Waterproofing Sealer category with a VOC limit of 100g/L.

Quick-Dry Enamel, Quick-Dry Primer, Sealer, and Undercoater & High-Gloss Nonflats

Staff is proposing to subsume the Quick Dry Enamel category into the Non-Flat Category since the two are the essentially the same. In the past, there was a distinction between Quick-Dry Enamels and Non-Flat Coatings because they had different VOC limits, labeling requirements, and ceiling limits in the ACO. On July 1, 2006, the VOC limit for Non-Flat Coatings were reduced to 50g/L and on July 1, 2007, the VOC limits for High-Gloss Non-Flat Coatings and Quick-Dry Enamels were reduced to 50g/L, and the three year sell through period expired on July 1, 2010. To simplify the rule and the Table of Standards, staff is proposing to subsume the Quick-Dry Enamel Category. By subsuming the category, the labeling requirements in paragraph (d)(4) can also be removed. Similarly, staff is proposing to subsume the Quick-Dry Primer, Sealer, and Undercoater category into the Primer, Sealer, and Undercoater category.

Staff is also proposing to eliminate the non-flat high gloss category. This category was added in 2006 to allow for a longer phase in period for the 50g/L limit for high-gloss non-flat coatings versus non-flat coatings. Now that the VOC for the non-flat and the high-gloss non-flat coatings are the same, staff would like to simplify the rule by eliminating the high-gloss category. The sell through period has also expired for this category.

Anti-graffiti coatings

Staff is proposing to separate this category into two new categories, Sacrificial Anti-Graffiti Coatings (SAG) and Non-Sacrificial Anti-Graffiti Coatings (NSAG). This change is intended to clarify the coating category for anti-graffiti coatings, but is not expected to result in emission reductions. It became evident upon reviewing the Rule 314 data that there was confusion on how to categorize these types of coatings. SAG coatings would currently fall under the default category with a VOC limit of 250g/L but are typically very low VOC coatings. They are paraffinic or wax-based coatings that are applied to surfaces and then washed off once the surface is

defaced. NSAG are currently categorized as Industrial Maintenance (IM) coatings because they are high performance coatings that can withstand abrasive cleaning. The VOC limits for SAG coatings are being proposed at 50g/L and the NSAG coatings are proposed to remain at the 100g/L, the same as the IM coating limit. Staff has conducted site visits where high-end NSAG coatings have been applied which are projected to have a 30 year service life. In addition, staff is proposing to include tBAc as an exempt solvent for NSAG coatings, since under the current Industrial Maintenance Coatings, tBAc is considered an exempt solvent.

The other type of anti-graffiti coatings that have been reported in Rule 314 are coatings designed to cover graffiti. These coatings are low cost flat, non-flat or recycled coatings mostly used by cities to mitigate graffiti. These types of coatings would still be categorized as flat, non-flat or recycled coatings.

Pigmented Varnish

Staff is proposing to include the word "pigmented" in the definition of a varnish. This change will be similar to the definition of a lacquer, which also includes "pigmented". This change is to address varnishes that have added pigments. Varnishes and lacquers contain a higher percentage of resin and form a film. Conversely, stains penetrate wood, and typically require a top coat.

REQUIREMENTS

For rule clarification, staff is proposing to rearrange paragraphs (c)(1) and (c)(2). Currently, paragraph (c)(1) contains the default limit for coating not included in the Table of Standards and (c)(2) contains further requirements regarding the Table of Standards. Much of the language was redundant between the two paragraphs. In addition, PAR 1113 includes a separate Table of Standards for coatings and for colorants. Staff reorganized and combined the requirements in (c)(1) and (c)(2) and created subparagraphs to address the default limit, the VOC limits in the Table of Standards for coatings, and the VOC limits for the Table of Standards for colorants. The new subparagraph (c)(2) now contains the requirements for Industrial Maintenance coatings which is a standalone requirement.

VOC LIMIT REDUCTIONS

A review of the Rule 314 data revealed the potential for VOC reductions in several categories. In addition to the data in Rule 314, staff met with manufacturers to discuss areas for additional potential VOC reductions.

Default Category

Rule 1113 has always had a default category for coatings that do not fit into any of the categories in the Table of Standards. This differs from the approach of the CARB SCM and the Federal AIM Rule where coatings default into the Flat or Non-Flat category if there is not a defined category for a coating. Based on past staff rule interpretations, the coatings that currently fall into the default category are concrete curing compounds, form release

compounds, dry erase, magnetic board and chalk board coatings. Staff is proposing to carve out categories for the first two. The other coatings are generally sold in small containers and are such niche products that they do not warrant a category carve out at this time.

The current VOC limit for the default category is 250g/L. This limit has been in place since the rule was adopted on September 2, 1977. Historically, the default category VOC limit was one of the lowest VOC limits in the Table of Standards. Today, the default limit is one of the highest limits. If Rule 1113 followed the state or federal coatings rule convention, coatings would default to the 50g/L Flat or Non-Flat limit. Staff is proposing to reduce the VOC limit from 250g/L to 100g/L.

According to the Rule 314 data for the default category, in 2008 the sales weighted average (SWA) was less than 50g/L and in 2009 the SWA was less than 100g/L as summarized in Table 5. The SWA drops to 26g/L in 2008 and 69g/L in 2009 once the coating categories that staff is carving out in this rule amendment are removed as shown in Table 6.

TABLE 7: RULE 314 DATA FOR ALL REPORTED DEFAULT COATINGS

Year	VOC (g/l)						Total Gal.	Total # of Prod.	Above Proposed Limit		Below Proposed Limit	
	Limit	Proposed	SWA	Max	Avg	Min			Total Gal.	# of Prod.	Total Gal.	# of Prod.
2008	250	100	46	702	71	0	164,640	243	30,330	49	134,310	194
2009	250	100	97	483	101	0	127,072	135	57,633	57	69,439	78

TABLE 8: RULE 314 DATA FOR DEFAULT W/O FORM RELEASE AND CONCRETE SURFACE RETARDERS

Year	VOC (g/l)						Total Gal.	Total # of Prod.	Above Proposed Limit		Below Proposed Limit	
	Limit	Proposed	SWA	Max	Avg	Min			Total Gal.	# of Prod.	Total Gal.	# of Prod.
2008	250	100	26	702	69	0	139,724	227	11,274	46	128,451	181
2009	250	100	69	483	101	0	102,427	131	33,188	55	69,239	76

Since the SWA for the default category is below the proposed VOC limit, staff is not projecting any VOC reductions. The change is being proposed for rule clean up purposes.

Dry Fog Coatings

Dry-fog (dry-fall) coatings are applied by spray application only, so that the overspray droplets dry before falling on floors and other surfaces. Overspray generated during atomization of a typical protective coating or paint, can collect on adjacent surfaces or fall, potentially damaging

surfaces not intended to be coated, resulting in extensive clean-up procedures. Dry-fog coatings were developed to reduce the amount of clean-up effort necessary, particularly when spraying overhead surfaces like ceilings inside plants or other facilities. With dry-fog coatings, the overspray releases all of its solvents (dries) as it falls through the air, such that it is dry when it contacts the surface(s) below. This minimizes the need for installation of protective coverings and allows the contractor to literally sweep-up or vacuum the overspray from these surfaces once the application is complete. The VOC limit for this category is currently 150 g/l.

According to the Rule 314 data as seen in Table 9, Dry Fog coatings have a SWA of 70 g/l and 62 g/l for the 2008 and 2009 calendar year, respectively. Most of the coatings sold in the AQMD are significantly below the 150g/L limit. The technology to formulate the coatings below 50g/L is currently available and being used in the AQMD.

TABLE 10: RULE 314 DATA FOR DRY FOG COATINGS

Year	VOC (g/l)						Total Gal.	Total # of Prod.	Above Proposed Limit		Below Proposed Limit	
	Limit	Proposed	SWA	Max	Avg	Min			Total Gal.	# of Prod.	Total Gal.	# of Prod.
2008	150	50	70	141	65	10	99,896	28	57,670	16	42,226	12
2009	150	50	62	394	93	14	89,116	32	41,541	20	47,575	12

Additionally, Table 11 demonstrates potential emission reductions by lowering the VOC limit from 150g/L to 50g/L, based on the Rule 314 data, and the 2005 CARB survey of coatings sold in 2004.

TABLE 12: ESTIMATED EMISSIONS REDUCTIONS FROM DRY-FOG COATINGS

Coating Category	Current VOC Limit	Proposed VOC Limit	Emission Reductions (pounds/day)		
			CARB Data	Rule 314 Data	
			2004	2008	2009
Dry Fog coatings	150	50	657	28	19

Fire Proofing Coatings

As discussed in the definitions section of this report, Fire Proofing Coatings are typically used for the steel structures of buildings. These coatings help to prevent catastrophic failure of buildings due to fires. This is a comparably small volume category; however, the data clearly shows that the proposed 150g/L limit is achievable as shown in Table 13. Furthermore, with the expansion of the definition to include interior steel, the volume for this category could increase in the future.

TABLE 14: RULE 314 DATA FOR FIRE-PROOFING COATINGS DATA

Year	VOC (g/l)						Total Gal.	Total # of Prod.	Above Proposed Limit		Below Proposed Limit	
	Limit	Proposed	SWA	Max	Avg	Min			Total Gal.	# of Prod.	Total Gal.	# of Prod.
2008	350	150	154	344	174	1	21,084	12	9,614	6	11,470	6
2009	350	150	157	350	151	0	16,188	21	7,435	12	8,753	9

Additionally, Table 15 demonstrates potential emission reductions by lowering the VOC limit from 350g/L to 150g/L, based on the Rule 314 data, and the 2005 CARB survey of coatings sold in 2004.

TABLE 16: ESTIMATED EMISSIONS REDUCTIONS FROM FIRE PROOFING COATINGS

Coating Category	Current VOC Limit	Proposed VOC Limit	Emission Reductions (pounds/day)		
			CARB Data	Rule 314 Data	
			2004	2008	2009
Fire Proofing Coatings	350	150	7	55	43

Graphic Arts Coatings

Graphic Arts Coatings are used by artists, typically on signs or murals, using hand-applications such as brush or roller techniques. The graphic arts category is another comparably small volume category where Rule 314 data suggests the current VOC of 500g/L is unnecessary as shown in Table 17. Although the number of products above and below the proposed limit is even, there is twice the volume below the limit. In addition, graphic arts coatings are frequently sold in small containers, therefore, those products above the allowable limit that cannot be reformulated could continue to be sold under the small container exemption.

TABLE 18: RULE 314 DATA FOR GRAPHIC ARTS COATINGS

Year	VOC (g/l)						Total Gal.	Total # of Prod.	Above Proposed Limit		Below Proposed Limit	
	Limit	Proposed	SWA	Max	Avg	Min			Total Gal.	# of Prod.	Total Gal.	# of Prod.
2008	500	150	156	496	135	11	12,464	206	4,073	103	8,391	103
2009	500	150	157	496	132	0	7,459	205	2,892	101	4,567	104

Table 19 further demonstrates potential emission reductions by lowering the VOC limit from 500g/L to 150g/L, based on the Rule 314 data, and the 2005 CARB survey of coatings sold in 2004.

TABLE 20: ESTIMATED EMISSION REDUCTIONS FROM GRAPHIC ARTS COATINGS

Coating Category	Current VOC Limit	Proposed VOC Limit	Emission Reductions (pounds/day)		
			CARB Data	Rule 314 Data	
			2004	2008	2009
Graphic Arts Coatings	500	150	-*	11	6

* protected data because less than 3 manufacturer reported sales.

Japan/Faux

Faux coatings are a niche category which has seen significant growth with many major manufacturers marketing faux finishing products to the consumer market. As discussed in the definition section, the Rule 1113 definition reflects what is occurring at the film studios; therefore, the Rule 314 data was not as useful for determining an appropriate VOC limit for the subcategories of Faux Finishes. Staff based the proposed limits on discussions with the manufacturers who primarily produce these types of coatings. The VOC limits shown in Table 21 are based on those discussions.

TABLE 22: FAUX & JAPAN VOC LIMITS

	Current Limit	Proposed Limit 07/01/11	Proposed Limit 01/01/13
Faux			
Glaze	350	350	350
Decorative Coatings	350	350	350
Japans	350	350	350
Trowel Applied Coatings	350	50	50
Clear topcoat	350	200	50

All of the subcategories, other than Japans, are new categories. Staff chose to use the current limit for the Japan/Faux category for all subcategories but is proposing to drop the limit for two of the subcategories within several months of rule adoption. This short time frame reflects the fact that those coatings already contain very low VOC levels. For instance, many trowel applied coatings are very near zero VOC. Trowel applied coatings do not require the same flow characteristics as tradition architectural coatings and therefore inherently contain lower levels of VOCs.

The other VOC limit that is being proposed to be lowered for a subcategory is the clear topcoats. Under the current Rule, staff has interpreted that the clear topcoats fall under either the flat or nonflat category with a 50g/L limit. During the rule making process, manufacturers made the case that a clear topcoat category was necessary. Staff is proposing to lower the VOC limit to 200g/L effective July 1, 2011. The majority the clear topcoats that are currently available range between 150g/L – 200g/L. Staff is proposing to further reduce the VOC limit of this subcategory to 50g/L, effective January 1, 2013. Staff is also adding language to require that the clear topcoat must be sold and used solely as part of a Faux Finishing coating.

Staff is not projecting emissions reductions for the Faux Finishing category.

Metallic Pigmented Coatings

Metallic Pigmented Coatings are decorative coatings used by homeowners, businesses, and theme parks to create a metallic look on various surfaces. The intent of the coating category is for an aesthetic appearance, and not to provide a protective coating such as an industrial maintenance coating. The current limit of the Metallic Pigmented Coating is 500g/L.

Over the years, there has been significant rule circumvention within the metallic pigmented coating category due to the high limit. One instance is discussed in the definitions section of this report. Another instance became apparent where manufacturers were marketing metallic pigmented coatings as industrial maintenance coatings. Staff sent out letters to curtail this practice, but recently came across another example of this type of circumvention. In the past, the high limit for this category was justified because solvent was needed for the metal flake to properly align. With the existence of low- and even zero-VOC metallic coatings, it is clear that this technological barrier has been overcome. Waterborne and high end two-component metallic pigmented coatings are currently available. In addition, solvent based metallic coatings could be formulated using exempt solvents. Even though the lower VOC limit will not result in significant emission reductions, it is anticipated that it will result in fewer instances of rule circumvention. Table 23 shows VOC information, sales data, and products distribution above and below the proposed limit, substantiating an allowable VOC limit reduction.

TABLE 24: RULE 314 DATA FOR METALLIC PIGMENTED COATINGS

Year	VOC (g/l)						Total Gal.	Total # of Prod.	Above Proposed Limit		Below Proposed Limit	
	Limit	Proposed	SWA	Max	Avg	Min			Total Gal.	# of Prod.	Total Gal.	# of Prod.
2008	500	150	177	498	258	0	11,950	58	3,881	37	8,069	21
2009	500	150	176	498	260	0	10,405	59	3,395	39	7,011	20

Figures 1 - 2 show a breakdown of the metallic pigmented coatings reported under Rule 314 for the 2009 calendar year:

FIGURE 3: MPC VOLUME/PRODUCT COUNT BY VOC CONTENT

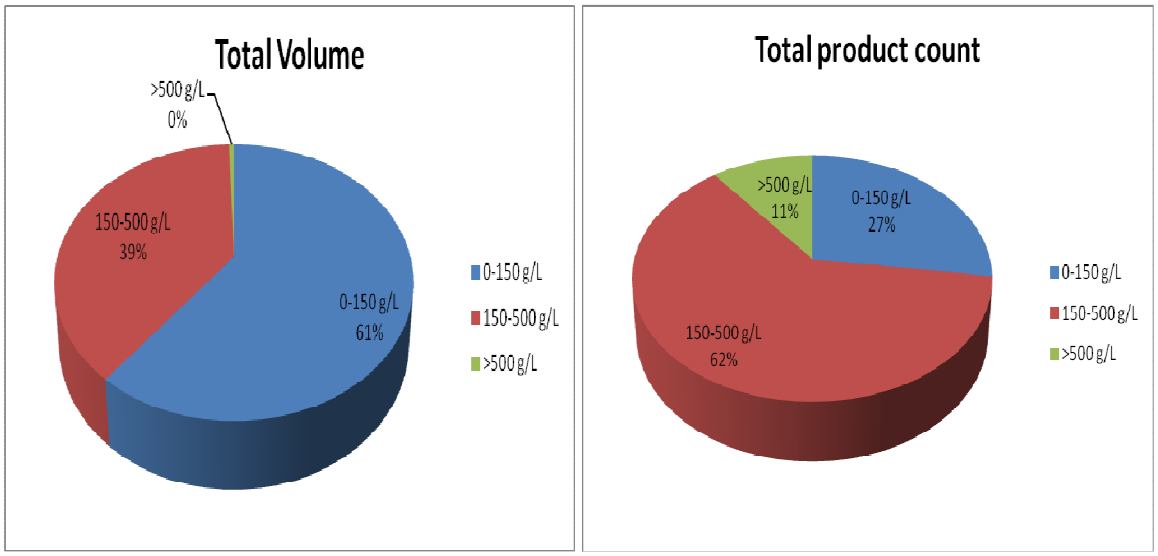


FIGURE 4: MPC TOTAL VOLUME BREAKDOWN

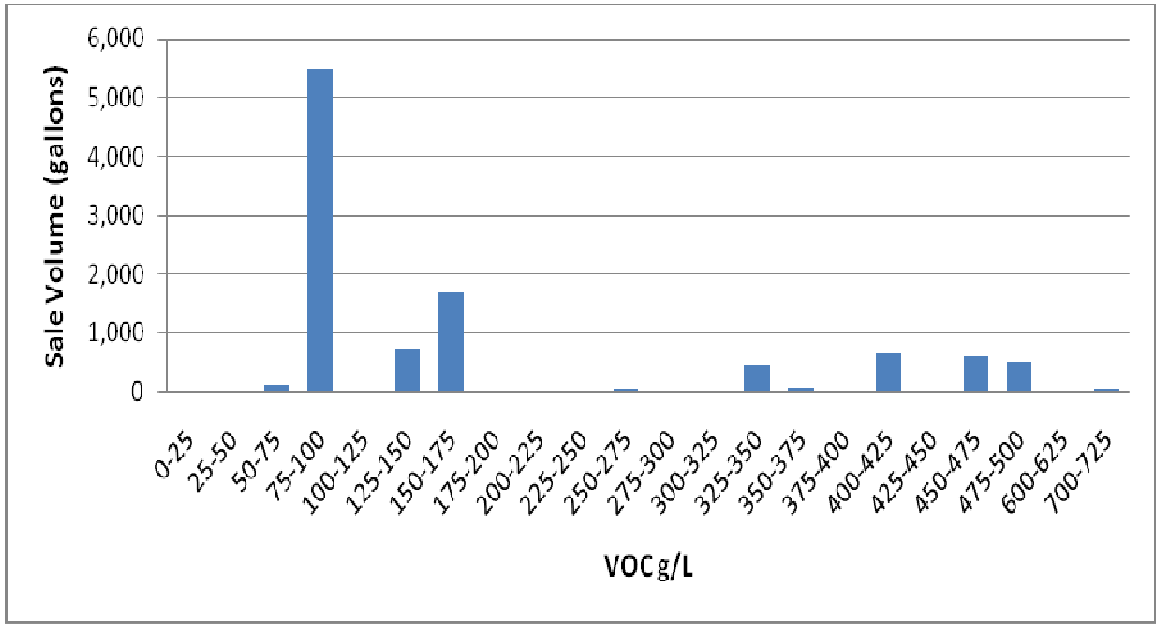


FIGURE 5: MPC TOTAL PRODUCT COUNT BREAKDOWN

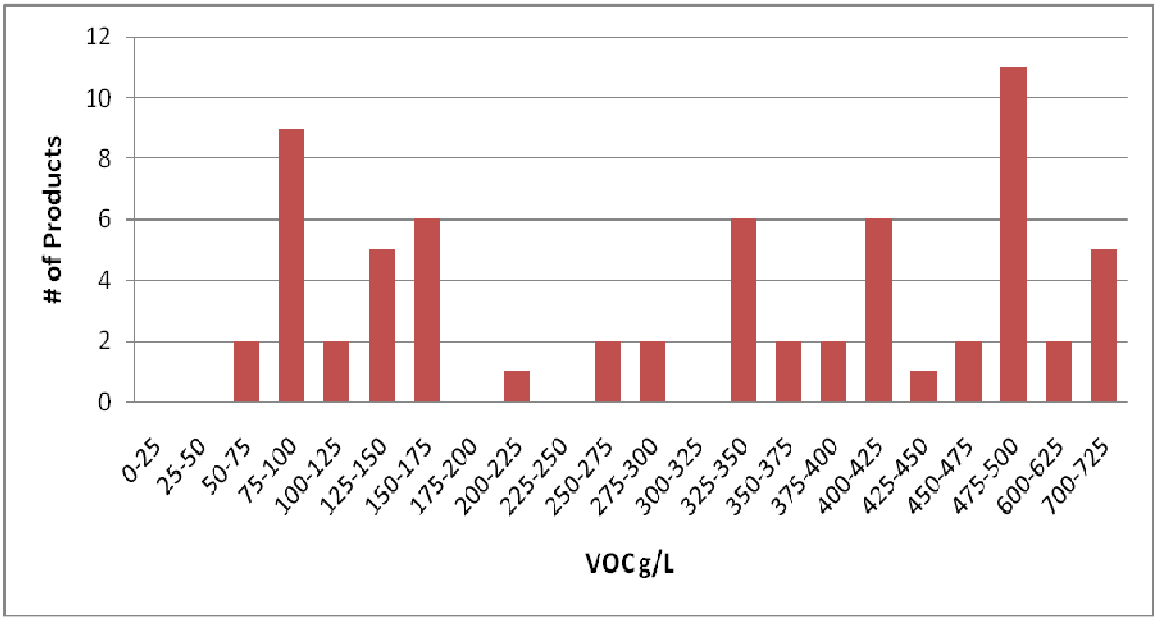


Table 25 demonstrates potential emission reductions by lowering the VOC limit from 500g/L to 150g/L, based on the Rule 314 data, and the 2005 CARB survey of coatings sold in 2004.

TABLE 26: ESTIMATED EMISSIONS REDUCTIONS FROM METALLIC PIGMENTED COATINGS

Coating Category	Current VOC Limit	Proposed VOC Limit	Emission Reductions (pounds/day)		
			CARB Data	Rule 314 Data	
			2004	2008	2009
Metallic Pigmented Coatings	500	150	1,547	23	19

Primers, Sealers, and Undercoaters

Primers, sealers, and Undercoaters (PSU) are used on a variety of substrates to prepare for subsequent coatings. The largest volume of PSUs is for interior drywall applications, either to seal new drywall or to prepare for a different color. PSUs are also used for more challenging substrates such as concrete, wood and metal. PSUs specified for metal substrates only can also be categorized as rust preventative with a VOC limit of 100g/L.

PSUs are the third highest coating category by volume, with a total of 3,411,507 gallons reported under Rule 314 in 2009. Excluding coatings sold under the small container exemption, sell-through and the averaging provision, there were 3,312,237 gallons reported sold in 2009.

Staff is proposing to reduce the VOC limit for PSU from 100g/L to 50g/L effective January 1, 2013 and remove PSUs from the averaging provision effective January 1, 2012. Staff based this

proposal on the significant number of coatings being offered for sale that already meet this limit as seen in Table 27.

TABLE 28: RULE 314 DATA FOR PSU

Year	VOC (g/l)						Total Gal.	Total # of Prod	Above Proposed Limit		Below Proposed Limit	
	Limit	Proposed	SWA	Max	Avg	Min			Total Gal.	# of Prod	Total Gal.	# of Prod
2008	100	50	53	700	62	0	3,967,996	731	1,950,842	407	2,017,154	324
2009	100	50	44	433	65	0	3,312,237	782	1,248,571	469	2,063,666	313

The following data shown in Figures 6 - 7 is based on the Rule 314 data for the 2008 calendar year, gallon sales only, no exemptions, and no specialty primers:

FIGURE 8: PSU TOTAL VOLUME/PRODUCT COUNT BY VOC CONTENT

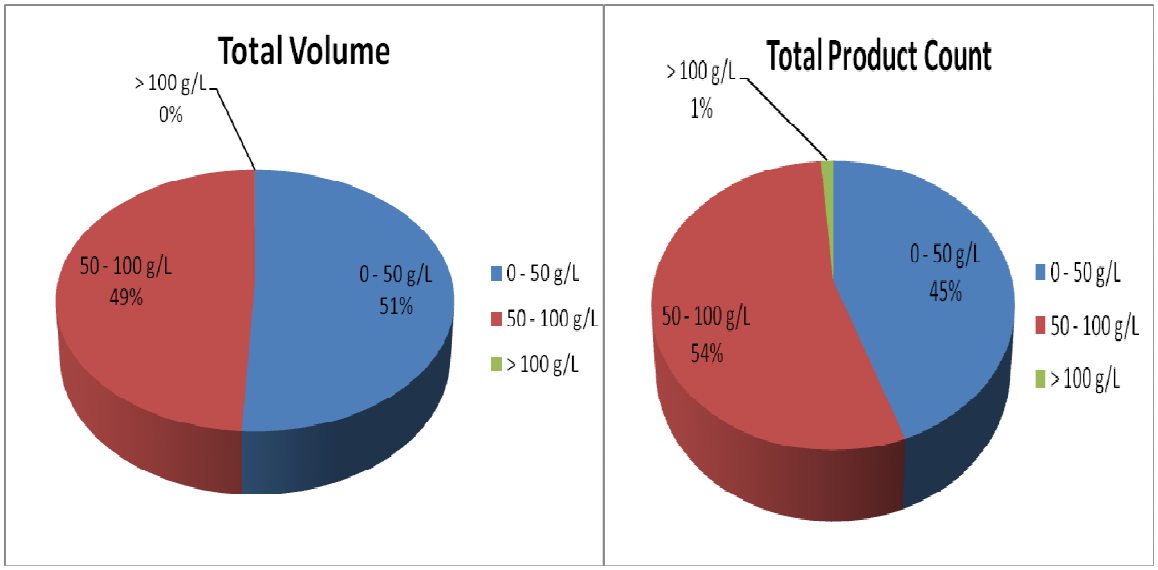


FIGURE 9: PSU VOLUME PRODUCT BREAKDOWN

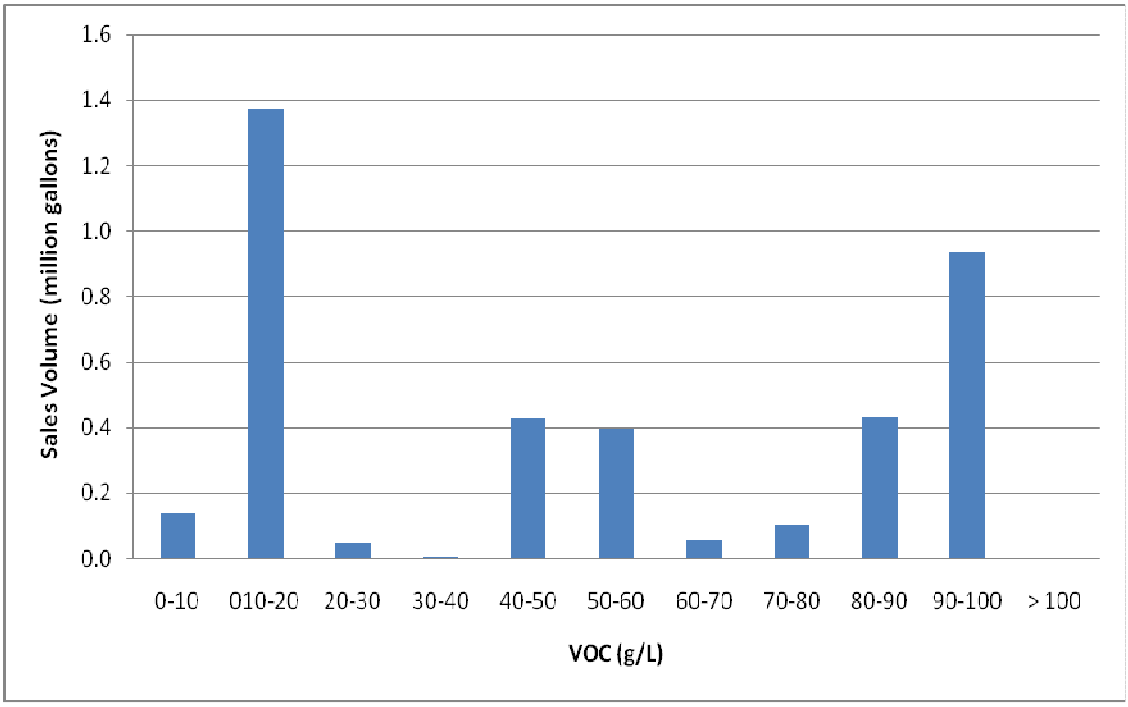
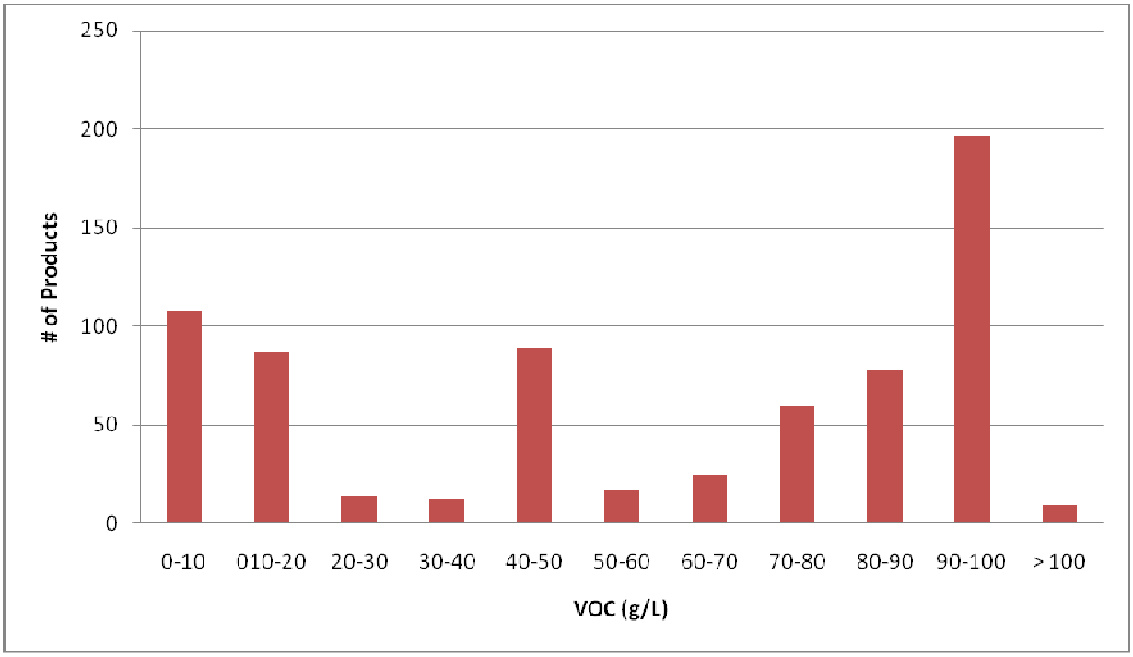


FIGURE 10: PSU PRODUCT COUNT BREAKDOWN



Staff received comments from several members of industry indicating that although there may be primers at 50g/L for easily primed substrates such as drywall, substrates such as concrete and metal are significantly more challenging. Staff performed an online search for the coatings

reported in Rule 314 for the 2008 calendar year. Product datasheets were found for approximately 40% of the reported primers. Figures 11 and 12 summarize that data:

FIGURE 13: TOTAL VOLUME BY RECOMMENDED SUBSTRATE

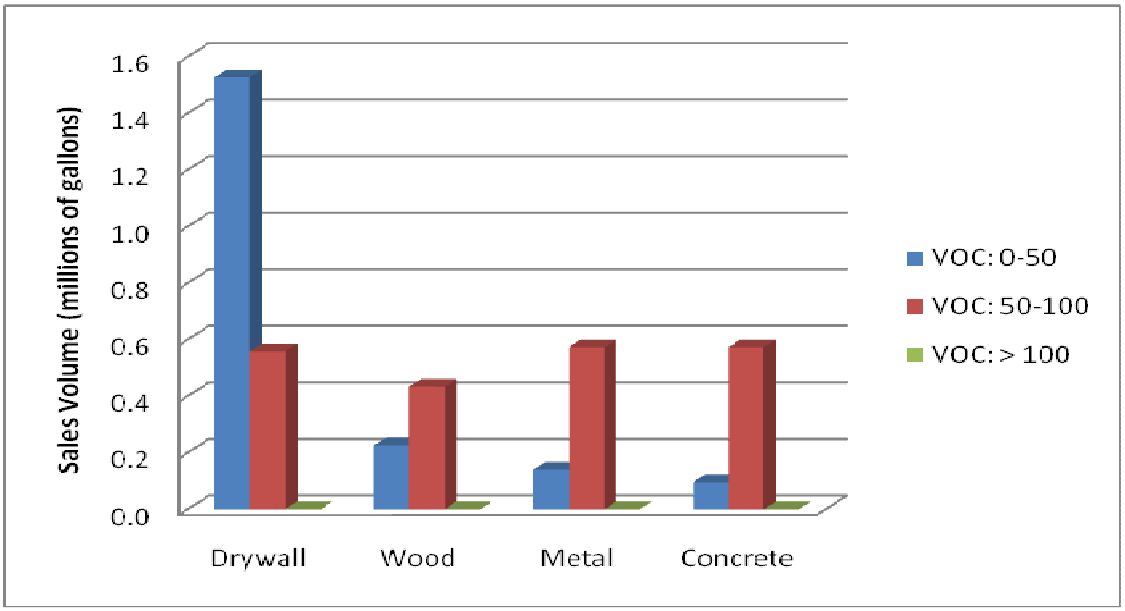
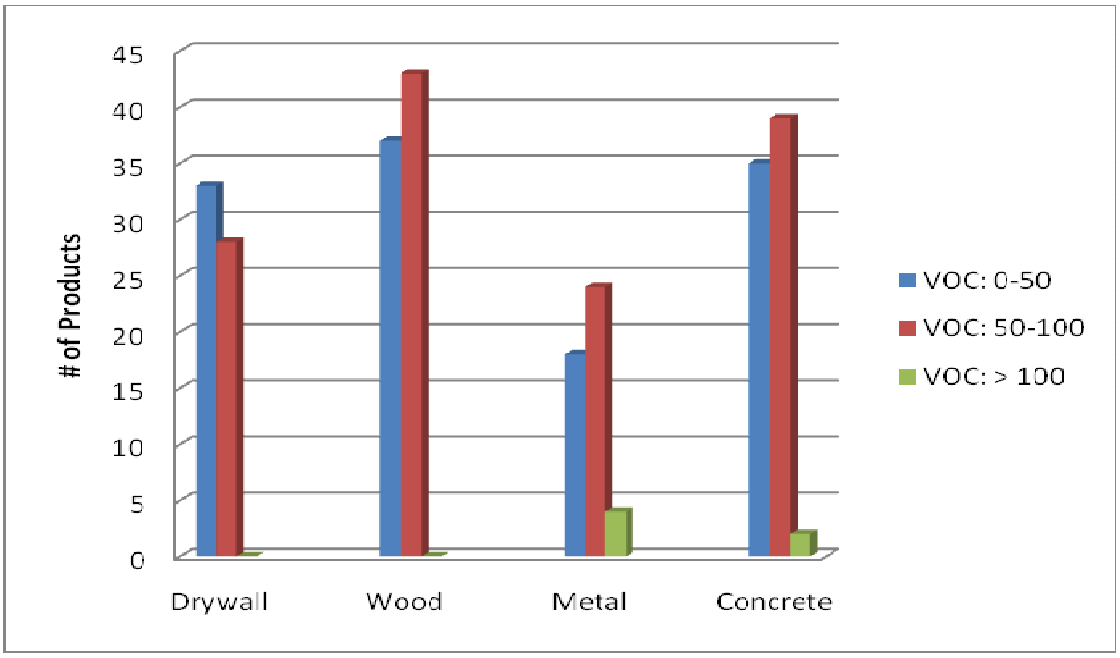


FIGURE 14: TOTAL NUMBER OF PRODUCTS BY RECOMMENDED SUBSTRATE



The estimated emission reduction that will result in removing the PSU category from the ACO is 0.02 tpd. Staff is proposing to also remove specialty primers from the ACO. Based on prior experience, if PSUs remain in the ACO, manufacturers will re-categorize specialty primers as

PSUs. Even though there will not be a significant emissions reductions by removing PSUs, it is anticipated that it will reduce potential rule circumvention.

Table 29 demonstrates potential emission reductions by lowering the VOC limit from 100g/L to 50g/L, based on the Rule 314 data, and the 2005 CARB survey of coatings sold in 2004.

TABLE 30: ESTIMATED EMISSION REDUCTIONS FROM PSU

Coating Category	Current VOC Limit	Proposed VOC Limit	Emission Reductions (pounds/day)		
			CARB Data	Rule 314 Data	
			2004	2008	2009
Primers, Sealers, & Undercoaters	100	50	2,141	616	562

Specialty Primers

Specialty primers are coatings formulated and recommended for application to various substrates in order to seal fire, smoke or water damage; or to condition excessively chalky surfaces. In recent years, staff has been approached by many manufacturers who have had technological breakthroughs resulting in low- and near zero-VOC specialty primers. Those manufacturers are unable to compete with lower-priced, averaged specialty primers with a higher VOC content. Staff is proposing to lower the VOC limit of the specialty primers to 50g/L, which is currently feasible, and to eliminate this category from the ACO to encourage the acceptance of the new generation of low VOC specialty primers. Table 31shows VOC information, sales data, and products distribution above and below the proposed limit, substantiating an allowable VOC limit reduction.

TABLE 32: RULE 314 DATA FOR SPECIALTY PRIMERS

Year	VOC (g/l)						Total Gal.	Total # of Prod	Above Proposed Limit		Below Proposed Limit	
	Limit	Proposed	SWA	Max	Avg	Min			Total Gal.	# of Prod	Total Gal.	# of Prod
2008	100	50	287	521	124	0	379,850	89	343,056	82	36,794.00	7
2009	100	50	283	521	129	0	359,838	88	323,927	81	35,910.50	7

Figures 15-16 summarize data based on Rule 314 submittals for the calendar year 2009 indicating total gallons and quarts, including averaged products.

Figure 17: Total Volume/Product Count by VOC Content

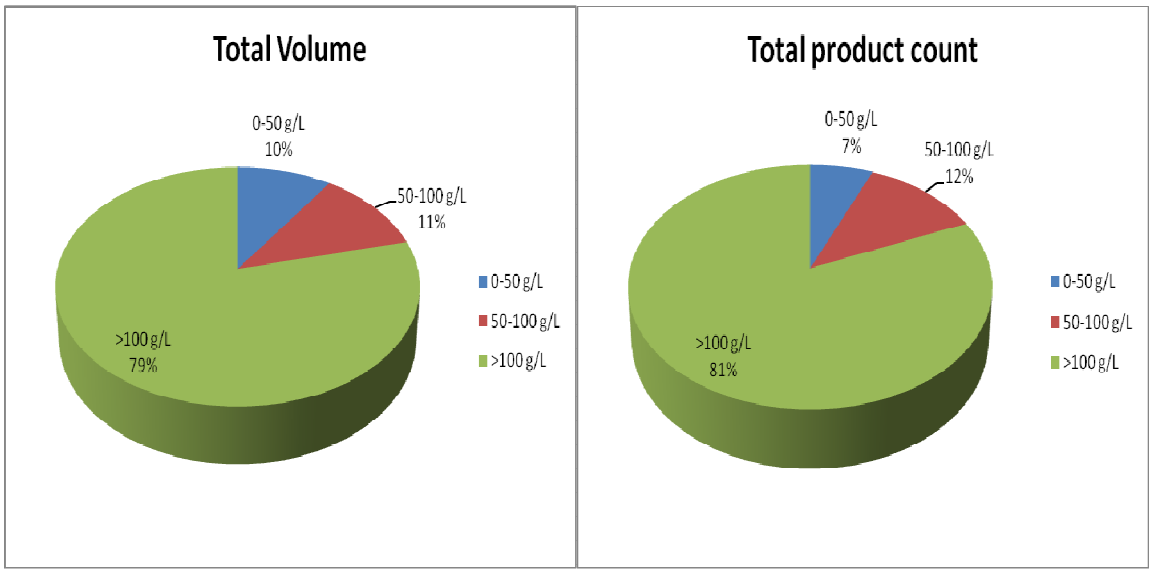


FIGURE 18: SPECIALTY PRIMER VOLUME PRODUCT BREAKDOWN

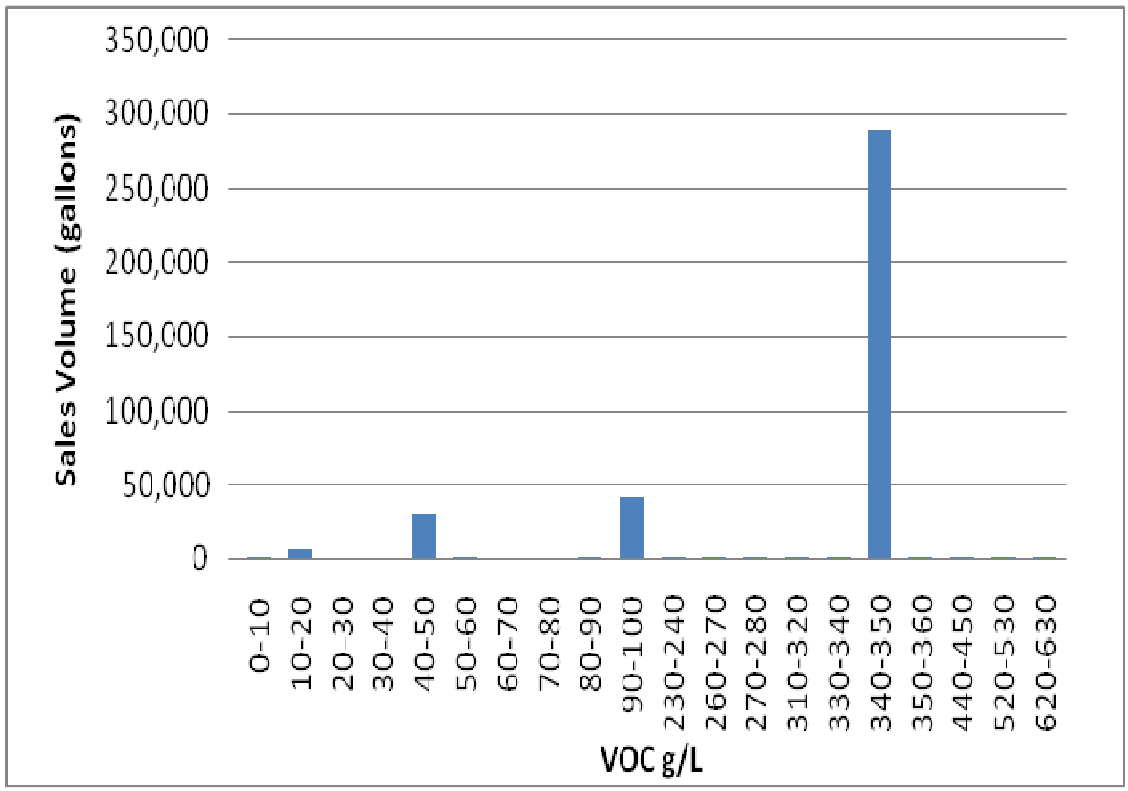
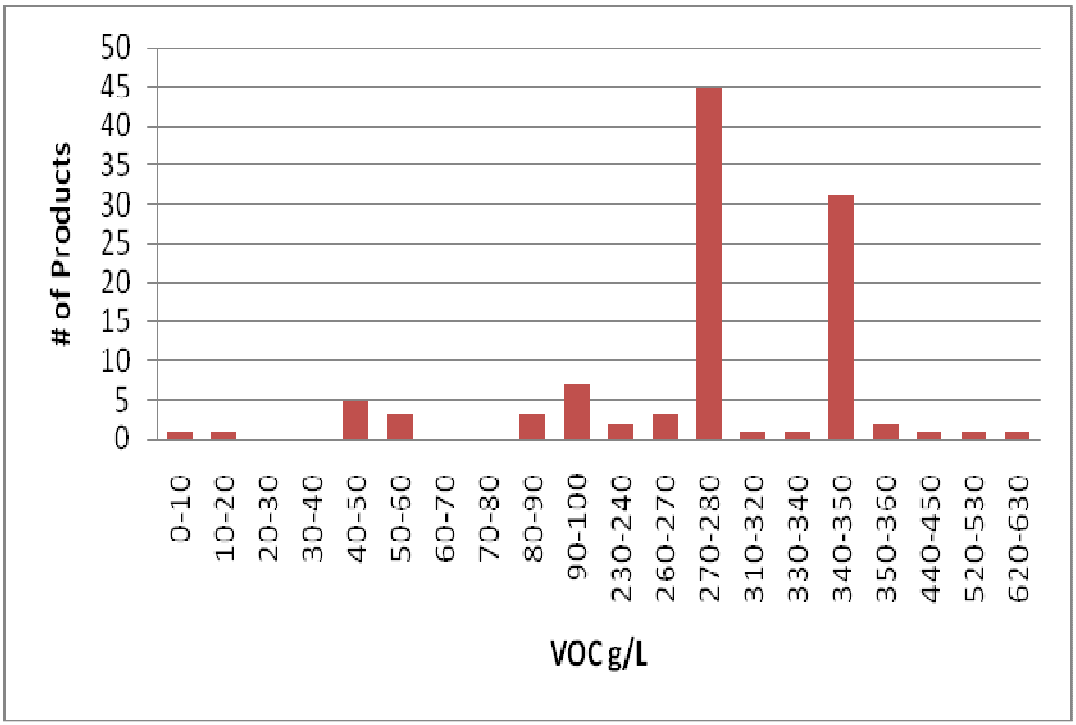


FIGURE 19: SPECIALTY PRIMER PRODUCT COUNT BREAKDOWN



The previous charts indicate that the majority of specialty primers are being sold through the ACO provision.

The estimated emission reductions that will result in removing the specialty primers from the ACO is 2,064.72 ppd based on the 2008 data and 1,937.29 ppd based on the 2009 data. Table 33demonstrates the potential emission reductions by lowering the VOC limit from 100g/L to 50g/L, based on Rule 314 data, and the 2005 CARB survey of coatings sold in 2004.

TABLE 34: ESTIMATED EMISSIONS REDUCTIONS FOR SPECIALTY PRIMERS

Coating Category	Current VOC Limit	Proposed VOC Limit	Emission Reductions (pounds/day)		
			CARB Data	Rule 314 Data	
			2004	2008	2009
Specialty Primers	100	50	416	29	23

VOC LIMIT ON COLORANTS

Since 1996, staff has been aware of the availability of low-VOC colorants for waterborne coatings used at the point of sale. Staff evaluated the availability of low-VOC colorants for the November 1996 amendments to Rule 1113, but deemed that the percentage of VOC added as a result of the colorant was not a significant factor compared to the relatively high VOC limits. Therefore, the initial staff proposal to regulate colorants was not included. Since that time, with

the implementation of lower-VOC limits as a result of three major rule amendments, especially for the coatings typically used by consumers to paint their homes, the existing colorants can significantly increase the VOC content of the coating.

Over the years, there have been significant improvements to both the near zero-VOC colorants and the colorant dispensers. The VOC content of colorants has been regulated in the European Union for over five years. The approach taken in Europe is to regulate the whole paint, including the colorant added at the point of sale.

In 2008, a major coating manufacturer made the decision to switch to near zero-VOC colorants in an attempt to formulate the best possible paint and limit the release and exposure to VOCs. To accomplish that goal, they decided to move away from the conventional high VOC glycol containing universal colorants that have been standard in the industry for decades. In addition to the new near zero-VOC colorant, a new dispenser was designed that would keep the dispenser tip from clogging with dried colorant, mainly with a humidification system comprised of a wet sponge that rests against the dispenser tip.

Conventional universal colorants are formulated with high concentrations of surfactants in order to be compatible with both waterborne and solvent based coatings. These surfactants can have negative effects on the coatings, especially when highly tinted. According to the 2009 Rule 314 data, 94% percent of coatings sold to the consumer in the AQMD were waterborne. The type of coatings that are typically tinted at the point of sale are flat, non-flat, and occasionally primers, 99.6% of which were waterborne in 2009. The only notable exception is stains, which are sometimes also tinted at the point of sale.

To satisfy market demands for truly zero VOC architectural coatings, manufacturers have been striving toward colorants that are as close to zero VOC as possible. The major issue that is encountered when solvents are removed is tip drying in the dispenser, which may result in mistints. This issue can be resolved with the addition of humectants or plasticizers that keep the tips from drying. Unlike solvent, the humectants do not evaporate and leave the paint film.

In August 2009, staff began working on several colorant surveys to determine the type of colorants that are currently being used to tint coatings at the point of sale for architectural and industrial maintenance applications. The goal was to gather information from manufacturers and retail outlets on their use and experience with near-zero VOC colorants. The surveys were conducted while researching the feasibility of setting a VOC limit for colorants. The surveys were sent out in April 2010, after incorporating feedback from small and large manufacturers of coating pigments (colorants) , and the ACA. The first survey was a general survey sent to 288 contacts on the AQMD Rule 1113 subscribers list that are identified as architectural coating manufacturers. According to Rule 314 reporting, there are approximately 200 manufacturers selling architectural coatings in the AQMD. The second survey was a targeted survey sent to 35 coating manufacturers who are listed on the AQMD Super-Compliant Coatings Manufacturers

List. The third and final survey focused on retailers, and was sent electronically to 11 retailer contacts on the Rule 1113 subscribers list. In addition, hard copies of the survey were circulated to retail locations throughout the AQMD. The surveys were anonymous; therefore no data from specific companies was recorded. The results of the survey can be found in Appendix A of this report.

According to the survey results, the biggest hurdle to switching to a near zero-VOC colorant is the dispenser which adds the colorant to the paint can. The colorants themselves are not an issue, since near zero-VOC colorants have been used for tinting at the factory for decades. One of the benefits of solvents contained in conventional colorants is to keep the dispenser tip from clogging as quickly. However, based on frequency of use, conventional solvent-containing colorants can also lead to clogged tips, which can lead to mistints, resulting in extra costs and wasted product. Traditional and re-designed dispensing machines require routine maintenance for proper performance. Typically, a daily 10 minute routine maintenance with a tool similar to a paperclip to clear the tip is sufficient. Clogged dispenser tips are a bigger issue for retailers who do not use the colorants as often, or for specific colors that are not used often, regardless if waterborne or solvent based.

However, there may be numerous reasons for mistints. A recent article about The Home Depot described how they have virtually eliminated mistints by adding bar code scanners at each dispensing unit. Different colors require different bases; their biggest source of mistints was when retail staff pulled the wrong base. The bar code scanners eliminated this issue, hence virtually eliminating mistinting.

Staff visited several local retail outlets and found a near zero-VOC colorant being used in a conventional carousal dispenser. The retail staff stated that they do not use that dispenser often and have to clear the dispenser tips prior to tinting a coating if it had not been used for a few days. AQMD staff also found a near zero-VOC colorant being used at a major big box retail outlet. The staff at that store explained the customers were extremely happy with the new colorant, because it is a more concentrated colorant that provides greater hiding power. The newer, improved near zero-VOC colorant system results in fewer coats to achieve the same coverage, hence less paint being used by the consumer and less time is required per painting project. The retail staff explained that they do conduct more maintenance, 10 minutes each morning to clear the tip. Their dispenser was supposed to be equipped with a sponge, but it was missing. They simply had a cover that slips over the tip when it is not being used.

Staff also spoke with several colorant dispenser manufacturers. According to them, the biggest improvement that can be made to avoid mistints is to switch to an automated dispenser. One of the manufacturers has designed an automated dispenser that is comparable in price to the manual carousal dispenser. Retrofits can also be made to dispensers to mitigate the tip drying issue, including caps and sponges to keep the tips from drying.

Staff initially proposed a 10g/L VOC limit on colorants with an effective date of January 1, 2013. This limit was proposed based on the feedback received regarding colorants that approach zero-VOC. Several coating manufacturers and manufacturers of the dispensing equipment have indicated that increasing the VOC level to 50g/L may help mitigate the tip drying issues as well as the potential film property issues. The addition of some solvent may help with lubricity and dispensing accuracy. Staff revised the proposal to a 50g/L VOC limit with an effective date of January 1, 2014.

Staff estimates that the reduction in emissions as a result of regulating colorants is between 2 and 3 tpd. This assumes that 80% of the flat and non-flat coatings sold in the AQMD are tinted at the point of sale with approximately an average of 4 ounces of colorant containing 325g/L VOC of Material. The volume estimate is a conservative estimate as other coating categories are also tinted but to a lesser extent, i.e. primer, specialty primers, stains. The volume of colorant added and the average VOC was based on feedback from members of industry. The volume of colorant added varies widely depending on the desired color; light or pastel colors require as little as ½ ounce while deep colors can require up to 12 ounces.

Staff included in this estimate the results from the most recent CARB survey as well as Rule 314 data. CARB conducts a survey of architectural coatings sold into California every four or five years. The most recent survey data is from 2005 indicating total coatings sold in California during 2004. The CARB survey is the basis of the VOC inventory in the 2007 AQMP. Staff is referencing that data, in addition to Rule 314 data, because of the reduced sales resulting from the economic climate that started in the latter part of 2007. The 2004 sales also do not represent the height of the volume of coatings sold, which more than likely occurred in 2006 during the peak real estate activity. As the economy recovers, staff estimates that the emissions reductions that can be achieved will be higher than those indicated from the 2008 and 2009 data as summarized in Table 35.

TABLE 36: ESTIMATED EMISSION REDUCTIONS FROM COLORANTS

	80% Gallons sold			Emissions tpd		
	2004*	2008	2009	2004	2008	2009
Flat & Non-Flat	25,608,202	18,755,636	17,718,674	2.8	2.0	1.9

*Based on the 2005 CARB Survey of 2004 sales within California; assumes 45% of sales were in the AQMD.

AVERAGING COMPLIANCE OPTION

In November 1996, the AQMD Governing Board amended Rule 1113 to include an Averaging Compliance Provision (ACO)as a flexibility option providing a more cost-effective and flexible approach for manufacturers *to transition compliant product lines* into the marketplace. To use the ACO successfully, a manufacturer must be able to distribute sufficient volumes of products

with VOC content below applicable limits in order to offset the excess emissions from products with VOC content above the limits. One limitation of the ACO is, it requires a manufacturer to have a broad array of commercial products, with sufficient volume of sales of products that are below the applicable VOC limit. Staff has heard from many manufacturers who feel that the ACO program has become anti-competitive; lower VOC products cannot compete with the higher-VOC, averaged products. The number of manufacturers who utilize the ACO have decreased from a maximum of 10 manufacturers in 2007, to 6 manufacturers electing to utilize the ACO for the 2011 compliance period.

Recently, the Environmental Protection Agency (EPA) expressed concern over the ACO in Rule 1113 which resulted in a partial disapproval of the State Implementation Plan (SIP). They stated that the ACO does not follow the recommendations of the EPA's Economic Incentive Program (EIP) guidance. The EPA finds that the ACO does not fulfill the EIP's environmental benefit principle and it exceeds the maximum recommended averaging period of 30 days or less. Staff is proposing to phase out the ACO by January 1, 2015, and is working with EPA to reduce the number of categories included in the ACO in lieu of the environmental benefit. The ACO provision allows manufacturers to offset 100% of the emissions from coating above the VOC limits with coatings below the VOC limits. An environmental benefit could be implemented by only allowing, for example, 90% of the emissions from coatings above the limit to be offset, the remaining 10% of emissions would be considered an environmental benefit. Staff is working with the EPA to satisfy their recommendations without overly burdening the manufactures who have relied on the flexibility provided by the ACO. Staff is not proposing to limit the ACO period to 30 days; that would be overly burdensome and effectively eliminate the ACO. Instead, staff is proposing to phase out the ACO over a longer time period to limit the fiscal impact to the manufacturers who participate in the ACO program.

In addition to the proposed phase out, staff is proposing to lower the ceiling limits to the 2003 Rule 1113 VOC limits, and reduce the number of categories eligible for the ACO, which could provide a greater environmental benefit than the 10% proposed by the EPA. Furthermore, this approach reflects the currently available technology and minimizes any 'anti-competitive' impacts from this flexibility provision. Staff is proposing to remove the following categories from the averaging provision since the categories are being subsumed in the proposed amendment: fire retardant coatings, high gloss nonflats, quick dry primers, sealers, and undercoaters and quick dry enamels. The following categories are also being proposed for removal since they are not being averaged to a large extent: roof coatings, waterproofing sealers, bituminous roof primers, zinc rich industrial maintenance primers, and waterproofing concrete/masonry sealers.

As discussed in the section on PSUs and Specialty Primers, staff is proposing to remove these categories from the ACO provision. While most ACO plans show an emissions benefit (i.e., their Actual vs. Allowable Emissions ratio is below 1), this proposal is to address potential anti-competitive impacts that may be occurring as a result of the ACO. Companies with higher

priced, reformulated lower-VOC products (e.g., Specialty Primers) are unable to compete with the lower-priced higher VOC products that are included in the averaging plans. Staff is proposing to also remove PSUs to address potential rule circumvention. In the past, staff has found that manufacturers will simply re-categorize Specialty Primers as PSUs, and vice versa, if there is a potential VOC benefit.

Table 37demonstrates potential emission reductions that may be achieved by removing the PSU and Specialty Primers category from the ACO:

TABLE 38: POTENTIAL EMISSIONS REDUCTIONS FROM REMOVING PSU AND SPECIALTY PRIMERS FROM ACO

Year	Total Gallons	Emissions (ppd)	Emissions (tpd)
2008	402,200	2,125	1.1
2009	361,744	1,956	1.0
		Average:	1.0

Table 39further demonstrates potential emission reductions that may be achieved by completely phasing out the ACO by 2015:

TABLE 40: POTENTIAL EMISSION REDUCTIONS FROM ACO PHASE OUT

Year	Total Gallons	Emissions (ppd)	Emissions (tpd)
2008	1,798,929	2,096	1.0
2009	705,838	430	0.2
		Average:	0.6

Numerous manufacturers, including some that participate in the ACO, support the elimination of the ACO, since they have successfully developed and implemented low VOC products, and on numerous occasions, have commented that they will continue to offer the low-VOC products based on a shift in consumer demand for lower-VOC products.

REQUIREMENTS AND PROHIBITIONS

General Prohibition Class II Exempt Compounds

Staff is proposing to add a general prohibition against the use of Class II exempt compounds listed in Rule 102 – Definition of Terms, in excess of 0.1%, other than cyclic, branched, or linear, completely methylated siloxanes (VMS). Staff recognizes that Group II compounds have

potential toxic health risks as well as being contributors to upper-atmosphere ozone depletion and other potential environmental impacts.

VOC Labeling Requirement

Staff is proposing to strengthen the labeling requirements for the VOC content on coatings. Staff has worked closely with manufacturers to craft a requirement that would have the least fiscal impact, while still having the desired effect. It is frequently difficult for consumers and AQMD staff to locate VOC information on coating labels. The compromise reached is to separate the VOC information so that it is not buried within a paragraph, and that the language be conspicuous such that it is likely to be read and understood by an ordinary individual under customary conditions of purchase or use. Staff will allow three years for this requirement to take effect so that manufacturer will not have to destroy any labels that have already been printed.

SMALL CONTAINER EXEMPTION

The Small Container Exemption (SCE) was adopted to allow for small niche applications that may not be able to meet the lower limits in the Table of Standards. Both the Federal AIM Rule and the CARB SCM contain a SCE. There are areas where staff acknowledges that a higher VOC product may actually result in lower emissions, such as touching up a widget, including a fence, a door, or a window, that was originally coated in a shop with a high VOC coating rather re-painting the entire widget. In addition, there are areas where specialty coatings are used in very small volumes where there is not a lower VOC alternative. One example is a primer used on recycled rubber floors in order to paint stripes for sporting activities. Coatings will typically not stick to the rubber without this high VOC primer. Very small quantities are required to prepare the flooring for the painting the stripes. The emissions that result from this primer are much lower than if a wood floor was installed that required regular staining and sealing. The SCE is also useful for transitional purposes when the VOC limits in Rule 1113 are lowered.

Staff initially proposed phasing out the SCE, however based on numerous comments and concerns, has reconsidered the complete phase-out, as well as requiring a VOC ceiling limit and quantity restrictions. Staff has refined the proposal to phase out the exemption for certain coating categories, an approach used in 2006, to phase out clear wood finishes. The exemption was removed because of a marked increase in the use of the SCE for clear wood finishes. Staff is proposing a similar approach by limiting the categories that can utilize this exemption. The feedback that staff received during the rule development process is that the SCE is essential and should not be limited. Manufacturers stated they would prefer a greater financial disincentive in the form of an increased fee in Rule 314 to any restrictions to this exemption. Staff will work on the increased fee later this year when Rule 314 is amended.

In addition, staff clarified the rule language to indicate that coatings sold in small containers are not entirely exempt from Rule 1113 but only exempt per the Table of Standards and paragraph (c)(1), (i.e. the VOC limits). This change will ensure that the labeling requirements apply,

including the VOC information. The VOC content of the coating is not only essential for enforcement staff, but also for the consumers trying to make informed decisions when purchasing coatings.

Another issue being addressed in this amendment is ”bundling” of coatings sold at retail outlets. There have been multiple instances where rule circumvention has been found in regard to the SCE. The first example is a manufacturer who sold 20 quarts inside a 5-gallon bucket. The intent was for the consumer to empty the quarts into the bucket, essentially enabling the manufacturer to sell 5-gallons of a high-VOC coating under the SCE. In another example, a manufacturer bundled four quarts into a ‘contractors pack’, essentially allowing the manufacturer to sell one gallon of a high-VOC coating under the SCE. The intent of the anti-bundling language is to prevent the manufacturer from marketing and selling multiple containers in excess of one liter, but not from shipping multiple containers to a retail outlet, or from preventing the retail outlet from boxing or bagging multiple small containers together.

Staff is also proposing to change the small container exemption for one quart or less to one liter or less. This is intended to provide consistency with the units used to describe the VOC content, grams per liter, and is consistent with the SCM and the Federal AIM Rule. One liter is equal to 1.057 quarts.

RULE CLEAN-UP

Fire-retardant coatings

The fire-retardant category was subsumed into the coating category for which they are formulated effective January 1, 2007. Staff is proposing to eliminate all references and requirements to fire-retardant coatings.

Rust preventative/IM coatings

Staff is striking out the language in paragraph (c)(2) that includes requirements for rust preventative coatings used for industrial use. Since rust preventative coatings and industrial maintenance coatings now have the same VOC limits, this requirement is unnecessary.

Remove reporting requirements

With the adoption of Rule 314, the reporting requirements in Rule 1113 are now redundant. Staff is proposing to eliminate the reporting for small containers sales, recycled coatings, shellacs, and specialty primers.

Test Methods

Staff is removing the reference to the Flame Spread Index. This method was cited in the definition of Fire-Retardant Coatings, which has been removed.

General

Staff is proposing to remove the effective dates that have now passed (i.e. past phase in dates for labeling of rust preventative coatings, specialty primers and concrete curing for roadways and bridges). In addition, provisions that have passed their sunset have been struck (i.e. the small business exemptions and the technology assessment for flat coatings).

SUMMARY OF POTENTIAL EMISSIONS REDUCTIONS

Table 41 estimates the VOC reductions that may potentially result from the proposed VOC reductions based on Rule 314 data, and the 2005 CARB survey of coatings sold in 2004.

TABLE 42: SUMMARY OF EMISSIONS REDUCTIONS BY CATEGORY

Coating Category	Current VOC Limit	Proposed VOC Limit	Emission Reductions (pounds/day)		
			CARB Data	Rule 314 Data	
			2004	2008	2009
Concrete Surface Retarders	250	50	-	0.5	0*
Dry Fog coatings	150	50	657	28	19
Fire Proofing Coatings	350	150	7	55	43
Form Release Compounds	250	100	589	48	60
Graphic Arts Coatings	500	150	-	11	6
Metallic Pigmented Coatings	500	150	1,547	23	19
Primers, Sealers, & Undercoaters	100	50	2,141**	616***	562***
Specialty Primers	100	50	416**	29***	23***
Total (pounds/day)			5,358	815	739
Total (tpd)			2.7	0.4	0.4

* All coatings reported were less than proposed VOC limit.

** Did not use SWA since there was a VOC reduction after the 2005 survey. Assume all coatings were formulated to 100g/L; does not include Primers or Specialty Primers sold under the ACO

*** Does not include volume of coatings sold under the ACO.

Table 43 summarizes differences between the CARB 2004 sales data and Rule 314 data.

TABLE 44: CARB DATA/RULE 314 DATA SUMMARY

	2004 CARB Data		2008 Rule 314 Data		2009 Rule 314 Data		2008 Rule 314 Data*		2009 Rule 314 Data*	
CATEGORY	Sales	SWA VOC*	Sales	SWA VOC*	Sales	SWA VOC*	Sales	SWA VOC*	Sales	SWA VOC*
Concrete Surface Retarders	-	-	885	36	574	0	885	36	574	0
Default	-	-	164,640	47	127,072	97	164,697	46	127,081	97
Dry Fog coatings	169,968	233	99,896	70	89,116	62	99,896	70	89,116	62
Fire Proofing Coatings	5,630	124	21,084	154	16,188	157	21,084	154	16,188	157
Form Release Compounds	145,625	233	24,756	137	26,691	143	24,756	137	26,691	143
Graphic Arts Coatings	pd	350	12,464	156	7,459	157	12,464	156	7,459	157
Metallic Pigmented Coatings	292,955	301	11,950	177	10,405	176	12,021	180	10,461	178
Primers, Sealers, & Undercoaters	4,682,569	128	3,967,996	53	3,312,237	44	4,089,083	57	3,401,446	47
Specialty Primers *	908,998	281	84,001	82	79,601	74	387,058	289	369,150	285

* Includes ACO and SCE but not sell through or low solids coatings

Staff does not anticipate any VOC reductions from the lower limits from the driveway sealer since CARB estimated 100% compliance when they proposed the category and VOC limit in 2007. Staff also does not anticipate VOC reductions from the sacrificial anti-graffiti coating category, which has been added for rule clarification.

Table 45 summarizes the potential emission reductions projected from the proposed rule change based on effective dates:

TABLE 46: SUMMARY OF EMISSION REDUCTIONS

Rule Change	Emissions Reductions (tpd)			
	2012	2013	2014	2015
Remove PSU & Specialty Primer from ACO (see Table 19)	1.0	0	0	0
Reduce VOC Limits (see Table 21)	0	0.4	0	0
Limit VOC of Colorants (see Table 18)	0	0	2.0	0
Phase out ACO (see Table 20)	0	0	0	0.6
Total Emission Reductions	4.0*			

* - Based on average of 2008 and 2009 Rule 314 Data. The 2005 CARB survey volumes may be used to indicate the higher volume sales in 2004 for subsequent emission reduction calculations to align with the 2007 AQMP.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The proposed amendments to Rule 1113 - Architectural Coatings has been reviewed pursuant to CEQA and an appropriate CEQA document has been prepared, and will be considered for certification concurrently with the consideration for adoption of PAR 1113.

LEGISLATIVE AUTHORITY

The California Legislature created the AQMD in 1977 (The Lewis Presley Air Quality Management Act, Health and Safety Code Section 40400 et seq.) as the agency responsible for developing and enforcing air pollution controls and regulations in the Basin. By statute, the AQMD is required to adopt an AQMP demonstrating compliance with all state and federal ambient air quality standards for the Basin [California Health and Safety Code Section 40440(a)]. Furthermore, the AQMD must adopt rules and regulations that carry out the AQMP [California Health and Safety Code Section 40440(a)]

AQMP AND LEGAL MANDATES

The California Health and Safety Code requires the AQMD 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 AQMD to adopt rules and regulations that carry out the objectives of the AQMP.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE

Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the AQMD 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 - The AQMD Governing Board has determined that a need exists to amend Rule 1113 - Architectural Coatings to amend the definition of metallic pigmented coatings, update the test method for metallic pigmented coatings and delete outdated text in Appendix A, Section A of the rule.

Authority - The 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 - The AQMD Governing Board has determined that the proposed amendments to Rule 1113 - Architectural Coatings, are written and displayed so that the meaning can be easily understood by persons directly affected by them.

Consistency - The AQMD Governing Board has determined that PAR 1113 - Architectural Coatings, is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, federal or state regulations.

Non-Duplication - The AQMD Governing Board has determined that the proposed amendments to Rule 1113 - Architectural Coatings do 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 AQMD.

Reference - In adopting these amendments, the AQMD Governing Board references the following statutes which the AQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001 (rules to achieve ambient air quality standards), 40440(a) (rules to carry out the Air Quality Management Plan), and 40440(c) (cost-effectiveness), 40725 through 40728 and Federal Clean Air Act Sections 171 et sq., 181 et seq., and 116.

REFERENCES

40 CFR Part 59, Subpart D – National Volatile Organic Compound Emission Standards for Architectural Coatings, September 11, 1998.