

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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Final Staff Report

Proposed Amended Rule 1143 - Consumer Paint Thinners & Multi-Purpose Solvents

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Deputy Executive Officer,
Planning, Rule Development, & Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer,
Planning, Rule Development, & Area Sources
Laki Tisopulos, Ph.D., P.E.

Planning and Rules Manager, VOC Rules
Naveen Berry

AUTHOR:	Don Hopps	Air Quality Specialist
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REVIEWED BY:	David Ono	Program Supervisor
	William Wong	Principal Deputy District Counsel
	Lauren Nevitt	District Deputy Counsel I

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I. EXECUTIVE SUMMARY

Rule 1143 - Consumer Paint Thinners & Multi-Purpose Solvents, was adopted on March 6, 2009, to implement Control Measure CTS-04 from the 2007 AQMP (“Air Quality Management Plan”) which calls for further Volatile Organic Compound (VOC) emission reductions from categories not regulated by CARB, including paint thinners and multi-purpose solvents. The adopted rule has a two-tier VOC concentration limit beginning with the 300 grams per liter (g/L) VOC limit, effective January 1, 2010, and followed by the final limit of 25 g/L VOC, effective January 1, 2011. The expected emission reduction will be 5.94 tons per day (tpd) by the year 2011, and an additional 3.81 tpd by January 1, 2012, resulting in a total VOC reduction of 9.75 tpd by January 1, 2012, when the rule will be fully implemented.

The rule was amended on June 4, 2010, to rescind the final VOC limit of 25 g/L, to comply with a court order by the Los Angeles County Superior Court.

On July 9, 2010, Rule 1143 was amended to reinstate the final VOC limit of 25 g/L of VOC, effective January 1, 2011 along with a one year sell-through provision allowing consumer paint thinners and multi-purpose solvents to be sold in the AQMD jurisdiction through December 31, 2011, provided that the products were manufactured prior to January 1, 2011. Additionally, Rule 1143 was also amended to allow consumer paint thinners and multi-purpose solvents containing 300 g/L or more of VOC to be sold and used until April 1, 2011, provided that the product container showed product uses that included the thinning of industrial maintenance coatings, and the product was manufactured prior to July 9, 2010.

During the latter part of the July 2010 rule amendment process, staff received comments regarding the need for an exemption relating to the solvents and thinners used by artists.

DuringAt the July 9, 2010 public hearing, staff committed to explore and evaluate the request and come back with an amendment prior to the end of the year, if necessary. Staff recognizes that Rule 1143 currently does not take into consideration the artist materials industry. Artist solvents and thinners specifically manufactured for artistic uses have been formulated, refined and purified to eliminate impurities, specifically intended for artist applications. These niche products do not fall into the general category of consumer paint thinners and multi-purpose solvents used for architectural coating thinning and clean-up.

The California Air Resources Board (CARB) exempted the artist solvents and thinners, which they call “Artist’s Solvent/Thinner,” from their Consumer Products Regulations (CPR) provided that they are labeled to meet ASTM D4236-94 (Reapproved 2005) and packaged in containers with a capacity less than or equal to 32 fluid ounces (one quart). At a subsequent public workshop for this project that was held on September 15, 2010, CARB staff stated in those discussions that they would be changing their Consumer Product Regulation language to exempt Artist’s Solvent/Thinner sold in containers with a capacity of 32 fluid ounces to accommodate 1 liter containers. On September 29, 2010, CARB posted a proposed modification to their definition of Artist’s Solvent/Thinner to replace the 32 (fluid) ounces with 34 (fluid) ounces which will include 1 liter containers (1 liter = 33.8 fluid ounces).

Staff is proposing an amendment to the rule that would provide an exemption to artist solvents and thinners from adhering to the VOC requirements set forth in the rule. Staff believes the amendment is necessary because artist solvent and thinner products are designed to be used specifically with artist solvent-based oil paints. Staff is currently unaware of low-VOC solvents that may be successfully reformulated for artist solvent and thinner products. In order to monitor the usage of the exemptions and minimize rule abuse, staff proposes to clarify that recordkeeping and reporting requirements are applicable to all exempt usage including artist solvents and thinners. Staff is also proposing to clarify that any consumer paint thinner or multi-purpose solvent that is manufactured prior to the effective date, of the applicable limit specified in paragraph (d)(1) in the rule, and that has a VOC content above that limit (but not above the limit in effect on the date of manufacture), may be sold, supplied, offered for sale, or used for up to one year after the specified effective date.

Therefore, staff is proposing the following amendment to Rule 1143:

- Exempting artist solvents and thinners that are properly labeled and sold in containers that are one liter or less from applicable VOC limits.
- Defining artist solvents and thinners.
- Making changes to the rule to clarify that all exempt products shall be subject to recordkeeping and reporting requirements.
- Making changes to the rule to clarify that the sell-through provisions for the final VOC limit do not apply to products that do not meet the interim VOC limit.

The proposed amendment will result in 114 pounds per day of VOC emissions foregone, which equates to approximately 18.5 gallons per day. The VOC emissions foregone due to this proposed amendment will represent 0.6% of the total existing VOC emission reductions applied to Rule 1143. No socioeconomic impacts are anticipated from this current proposal.

II. BACKGROUND

Consumer Products are the largest source of VOC emissions in the South Coast Air Basin (Basin). The California Air Resources Board (CARB) estimates that consumer products in the state of California account for approximately 245 tons per day (tpd) of VOC emissions¹. Approximately forty-five percent (45%) of that estimate or 110.3 tpd of VOC emissions² can be attributed to the Basin.

The 2007 AQMP highlights the growing impact of VOC emissions from consumer products. Taking into account population growth and planned VOC reductions by CARB, the AQMP estimates that the annual average VOC emissions for the consumer product category will be 107 tpd by the year 2014, and will likely increase to 112.1 tpd by the year 2020³. Rule 1143 implements Control Measure CTS-04 from the 2007 AQMP.

Consumer multi-purpose solvents work very well for cleaning deposits such as grease, oil, paint, carbon deposits, residues from tools, equipment, and general household uses, whereas consumer paint thinners are used to thin traditional solvent-based architectural coatings. However, based on staff's market assessment, traditional high-VOC containing consumer paint thinners and multi-purpose solvents are typically used interchangeably. PAR1143 changes this practice, since both consumer paint thinners and multi-purpose solvents are required to meet similar VOC limits prescribed in the rule.

III. RULE HISTORY

Rule 1143 - Consumer Paint Thinners & Multi-Purpose Solvents, was adopted on March 6, 2009, by the Governing Board and is currently in effect regulating consumer paint thinners and multi-purpose solvent products offered for sale and use within the Basin. Rule 1143 limits the VOC content in a ~~two-two~~-tier approach for products sold to consumers and these VOC limits apply to suppliers, distributors, and retailers of consumer paint thinners and multi-purpose solvents. No public comments pertaining to artist solvents and thinners were received by staff during this nine-month rulemaking process.

On April 1, 2009, W.M. Barr filed a petition for writ of mandate and declaratory relief, challenging Rule 1143, primarily based on alleged inadequacies of the environmental assessment, including its analysis of safety issues, regarding the increased flammability as a result of compliant formulations that use acetone as an exempt solvent.

On September 24, 2009, CARB amended the Consumer Products Regulations (CPR), with virtually the same VOC limits for consumer paint thinners and multi-purpose solvents, but with implementation dates of January 1, 2011 for the interim VOC limit and January 1, 2014 for the final VOC limit. Additionally, CARB also included other provisions with statewide applicability, including the limitation of aromatic content, prohibition of the use of trichloroethylene, and limiting the use of products that exceed the 150 Global Warming Potential

¹ See <http://www.arb.ca.gov/consprod/geninfo/cpsmog.htm>

² This estimate does not reflect additional VOC reductions proposed by CARB.

³ See Final 2007 Air Quality Management Plan, Chapter 3.

(“GWP”). CARB also included a sell-through provision for 3 years and when combined with implementation dates, the 30% by weight VOC limit will not be fully implemented until January 1, 2014 and the 3% by weight VOC limit will not be fully implemented until January 1, 2017. CARB also provided language in their CPR to exempt artist solvents and thinners provided they were sold in containers with a capacity of 32 fluid ounces (one quart) or less and they were properly labeled to meet the labeling requirements as specified in ASTM D4236-94 (Reapproved 2005).

On December 7, 2009, the court upheld the AQMD’s environmental assessment except on the flammability issue. Subsequently, the AQMD filed a motion to limit the court’s remedy.

On April 1, 2010, the AQMD’s motion was granted in part, but the judgment and writ required the AQMD to vacate the final VOC limits of the 25 g/L VOC limit, and prepare an Environmental Assessment (EA) that considers the fire hazard issue.

On June 4, 2010, the AQMD Governing Board amended Rule 1143 to comply with the court’s decision by rescinding the final 25 g/L VOC limit. The rescinding of the final 25 g/L VOC limit resulted in foregoing 3.81 tons per day of VOC emission reductions.

On July 9, 2010, Rule 1143 was amended to readopt the final 25 g/L VOC limit, effective January 1, 2011, and recover the foregone 3.81 tpd of VOC emissions. In addition, a supplemental environmental assessment ~~was completed~~ that focused only on the fire hazard issue, was completed as directed by the court.

During the latter part of the July 2010 rule amendment process, staff received comments regarding the need for an exemption relative to the solvents and thinners used by artists. On July 9, 2010, during the public hearing for the rule, staff committed to explore and evaluate the request and come back with an amendment prior to the end of the year, if necessary. Staff recognizes that Rule 1143 currently does not take into consideration the artist materials industry. Artist solvents and thinners specifically manufactured for artists have been formulated, refined, and purified to eliminate impurities specifically for artist applications. These niche products do not fall into the general category of consumer paint thinners and multi-purpose solvents used for architectural coating thinning and clean-up.

On September 15, 2010, a public workshop for this project was held where CARB staff stated, in their discussions, that they would be changing their Consumer Product Regulation language to exempt Artist’s Solvents/Thinners sold in containers with a capacity of 34 fluid ounces to accommodate 1 liter containers.

IV. AFFECTED FACILITIES

Artist solvents and thinners have been formulated and refined to eliminate impurities from paint thinners and solvents specifically for artist applications, and do not fall into the general category of consumer paint thinners and multi-purpose solvents. AQMD staff has worked with CARB in

regard to consumer paint thinners and multi-purpose solvents and is aware that CARB surveyed artist solvents and thinners during their 2006 Consumer and Commercial Products Survey (ARB 2007f)⁴. CARB found the emissions from the artist solvents and thinners category had a minuscule effect on VOC reductions. In fact, CARB estimated that consumer artist solvent and thinner products in the state of California accounted for approximately 252.7 pounds per day (ppd) of VOC emissions. Approximately forty-five percent (45%) of that estimate or 114 (113.7) ppd of VOC emissions can be attributed to the Basin. CARB also found that artist solvents and thinners are required to meet the Labeling of Hazardous Art Materials Act (LHAMA) within the Federal Hazardous Substances Act which requires that any art material, including solvents, must meet the requirements in ASTM D4236-94 (Reapproved 2005), the standard Practice for Labeling Art Materials for Chronic Health Hazards, to protect consumers of any age from potential health hazards of these products. CARB exempted the artist solvents and thinners, which they call “Artist’s Solvents/Thinners⁵,” from the requirements of their CPR, provided said products are labeled to meet ASTM D4236-94 (Reapproved 2005) and packaged in containers with a capacity of 32 fluid ounces or less. At a subsequent public workshop for this project that was held on September 15, 2010, CARB staff stated in those discussions that they would be changing their Consumer Product Regulation language to exempt Artist’s Solvents/Thinners sold in containers with a capacity of 32 fluid ounces to accommodate 1 liter containers. On September 29, 2010, CARB posted a proposed modification to their definition of Artist’s Solvent/Thinner to replace the 32 (fluid) ounce container capacity limit with a 34 (fluid) ounce container capacity limit which will include 1 liter containers (1 liter = 33.8 fluid ounces).

There are approximately 19 manufacturers of artist solvents and thinners products exclusively for the artist industry. The artist industry also includes support organizations and AQMD staff has had several discussions and correspondences with both the Artist Creative Materials Institute (ACMI) and the National Art Materials and Trade Association (NAMTA) to further understand their specific uses. Artist solvents and thinners are typically sold through hobby, craft, and art material store outlets and through internet sales.

V. DISCUSSION OF TECHNOLOGY TYPES FOR ARTIST SOLVENTS AND THINNERS

Artist solvents and thinners are manufactured specifically for a variety of art-related uses; the most common is oil on canvas painting. Although there are products with a VOC content less than 25 g/L available and in use for consumer paint thinners and multi-purpose solvents, those may not be sufficient replacements for the currently used artist-related materials including turpentine, mineral spirits, odorless mineral spirits, and artist mediums. To meet the VOC limits in Rule 1143, consumer paint thinners and multi-purpose solvents have been reformulated using the following technologies: 1) Aqueous technology which includes formulations made from water, detergents, chelating agents, alkaline builders and various blends of surfactants and is typically used for multi-purpose cleaning agents; 2) Exempt solvents including acetone, PCBTF, and methyl acetate, as well as blends of the three; and; 3) Bio-based technology including methyl

⁴ CARB, 2006 Consumer and Commercial Products Survey, 2009, <http://www.arb.ca.gov/consprod/regact/2006surv/2006surv.htm>.

⁵ CARB, Consumer Products Regulations, August 7, 2009, <http://www.arb.ca.gov/regact/2009/cpmthd310/cpmthdisor.pdf>.

esters is currently available for a variety of uses, including lowering the volatility of exempt solvents. The artist solvents and thinners are used specifically for arts and crafts and are broken down into the following solvent and thinner variants.

Turpentine

Turpentine is the traditional solvent that is manufactured from tree resins and has been used for oil on canvas painting for many years. Artist quality turpentines are further refined to remove the impurities commonly found in products sold at hardware stores for general consumer use. Turpentine is also known as Spirit of Turpentine, Oil of Turpentine, Genuine Turpentine, English Turpentine, Distilled Turpentine, Double Rectified Turpentine, and simply “Turps”.

Mineral Spirits

Mineral Spirits are a commonly used solvent that are manufactured from petroleum products. Mineral Spirits are generally less expensive than turpentine and are a stronger solvent than Odorless Mineral Spirits. Mineral Spirits are used to reduce the viscosity of various acrylic resins to a range needed for application. Mineral Spirits are also used to remove (resolubilize) the varnish in case the artist is unhappy with the outcome of the painting and can be used for periodic cleaning or restoration of the work. Mineral Spirits are also known as White Spirits.

Odorless Mineral Spirits

Odorless Mineral Spirits are also a commonly used solvent that ~~is~~are manufactured from petroleum products. Odorless Mineral Spirits are marginally more expensive than Mineral Spirits but have been manufactured with less of the harmful aromatic solvents found in Mineral Spirits. As in the case of Mineral Spirits, Odorless Mineral Spirits are used to reduce the viscosity of various acrylic resins to a range needed for application. Odorless Mineral Spirits are also used to remove (resolubilize) the varnish in case the artist is unhappy with the outcome of the painting and can be used for periodic cleaning or restoration of the work.

Citrus-Based Thinners

Citrus-based thinners are manufactured from food-grade and technical-grade citrus oils and are nontoxic, nonflammable solvents that are used in some arts and crafts applications. The major component used in citrus-based thinners is d-Limonene, which is the oil extracted from citrus and citrus peels. The oil separated from the juice after the juicing process is the food-grade d-Limonene and the citrus peels that are sent to a steam extractor to extract the oil from the peel becomes the technical-grade d-Limonene. In Technical-grade d-Limonene, the oil is collected after the steam is condensed by capturing the layer of oil floating on the surface of the condensed water. D-Limonene is known to have more than 95% per volume of VOC.

Artist Mediums

Artist mediums are used to modify artist oil paint straight from the tube. The mediums can be used to lengthen the drying time of the paint, make it thinner, or alter the character of the paint from what comes out of the tube. Mediums can ~~also~~ be used to make the paint transparent or opaque and can also be used to alter gloss or matte sheen of the paint. Mediums are used for oil on canvas paintings to influence the color of a pigment.

Brush Cleaners

The most common application technique for an artist using paint is simply to apply the paint with a paint brush. There are several artist brush cleaners that are currently available to clean artist paint brushes after they were used to apply oil-based paint. Artist paint brush bristles are made from animal hair such as hog's bristles, mongoose hair, red sable (weasel hair), and Siberian mink. The hair possesses several important properties for the artist such as maintaining a superfine point, smooth handling, and good memory (where the bristles return to their original point between brush strokes). There are also synthetic brushes available which can offer durability and cost effectiveness. The artist brush cleaners have been formulated specifically for these types of paint brushes.

VI. ARTIST INDUSTRY'S CONCERNS

Staff had a meeting with several members from the artist industry to hear their concerns with Rule 1143 and the need for an exemption for artist solvents and thinners. One of the major concerns is the ability to continue the use of artist solvents and thinners which are specifically formulated, refined, and purified to eliminate impurities for artist applications. Antique oil paintings normally found in the museums are restored by using specially formulated artist solvents designed specifically for painting restoration. These antique paintings are protected by a coating of varnish, however, the varnish ages and must be removed before a new coat of varnish can be applied. This requires specialty artist solvents that will remove the varnish but will not attack the original painting oils. Other artist uses include using turpentine, tinted with paint, to make the special layering effects on an oil painting. Turpentine is also used for dissolving Damar varnish which is an essential solvent for an artist. The Damar resin will only dissolve in Gum Turpentine. The other main concern from the artist industry is that artists use handmade brushes that can cost \$50 to \$150 per brush. The brush is cleaned with turpentine and then oil, typically vegetable oil, is used to preserve the brush while it's not in use. The brush is cleaned with turpentine to clean the hairs of the oil before it is used again. The artist industry contends that an artist oil painting brush cannot be cleaned using soap and water mainly due to the oil paint chemistry and the soap will dry out the hairs. Cleaning a paint brush using mechanical means will cause the brush hairs to break.

VII. OVERVIEW: PROPOSED AMENDMENT TO RULE

Staff is proposing an amendment to the rule that would provide an exemption for artist solvents and thinners from the VOC requirements set forth in the rule. Staff believes this provision is necessary because artist solvent and thinner products are designed to be used with specific-to-artist solvent-borne paints, and successful low-VOC technology is currently unavailable.

AQMD staff researched the costs of artist solvents and thinners and compared them to equivalent products sold at home improvement, paint, and hardware stores. AQMD staff found that for a common quart size, the artist products cost 67.6% more than the general use consumer paint thinners and multi-purpose solvents, whereas for the gallon size, the artist products cost 54.1% more than the general use consumer paint thinners and multi-purpose solvents. CARB exempted the artist solvents and thinners, which they call "Artist's Solvents/Thinners," from their CPR

provided that they are labeled to meet ASTM D4236-94 (Reapproved 2005) and packaged in containers with a capacity less than or equal to 32 fluid ounces (the language in their CPR is expected to change the 32 fluid ounces maximum capacity to accommodate 1 liter maximum capacity).

Staff is proposing a new definition to be added to Rule 1143 for “ARTIST SOLVENTS/THINNERS.” This amendment proposes to exclude artist solvents and thinners that meet the above mentioned criteria from adhering to the VOC requirements set forth in the rule for Consumer Paint Thinners & Multi-Purpose Solvents.

Staff is proposing to make changes to the rule that will clarify that recordkeeping and reporting requirements are applicable for the following exempted products:

- Solvents, provided that they are labeled and designated exclusively for the clean-up of polyaspartic and polyurea coatings application equipment.
- Thinners, provided that they are labeled and designated exclusively for the thinning of Industrial Maintenance coatings, Zinc-Rich IM Primers, and High Temperature Coatings.
- Artist solvents and thinners, provided that they are labeled and designated exclusively to reduce the viscosity of, or remove, art coating compositions or components and are individually packaged in containers having a total capacity equal to or less than 1 liter.

AQMD staff believes that these measures will discourage possible circumvention by non-exempted product users and will allow staff to monitor and assess if use of these exempt products has substantially increased, which could imply that they are being purchased for non-labeled non-compliant uses.

Staff is also proposing to clarify that any consumer paint thinner or multi-purpose solvent that is manufactured prior to the effective date of the applicable limit specified in paragraph (d)(1) in the rule, and that has a VOC content above that limit (but not above the limit in effect on the date of manufacture) may be sold, supplied, offered for sale, or used for up to one year after the specified effective date.

Therefore, staff is proposing to amend Rule 1143 by:

- Exempting artist solvents and thinners that are properly labeled and sold in containers that are one liter or less from applicable VOC limits.
- Defining artist solvents and thinners.
- Making changes to the rule to clarify that all exempt products shall be subject to recordkeeping and reporting requirements.
- Making changes to the rule to clarify that the sell-through provisions for the final VOC limit do not apply to products that do not meet the interim VOC limit.

VIII. EMISSION IMPACTS

Rule 1143 was developed to have two different VOC limit reductions. The interim limit, currently in effect, as of January 1, 2010, limits any consumer paint thinner and multi-purpose solvent to 300 g/L VOC but offers a sell-through provision up to December 31, 2010 to allow sales and use of high-VOC traditional solvents provided they were manufactured prior to January 1, 2010. When fully implemented, the interim reduction limit will reduce VOC emissions by 5.94 tons per day. The second reduction, the final limit, will commence on January 1, 2011 and the VOC limit will be reduced to 25 g/L. In addition, any consumer paint thinner and multi-purpose solvent manufactured prior to January 1, 2011 will have a one-year sell-through allowance for products containing up to 300 g/L VOC. Furthermore, any consumer paint thinner and consumer multi-purpose solvent that exceeds 300 g/L VOC but also displays multiple uses on the container label including the thinning of industrial maintenance coatings and was manufactured prior to July 9, 2010, will be allowed a sell-through until April 1, 2011. When fully implemented, the 25 g/L VOC limit will reduce VOC emissions by another 3.81 tons per day thus resulting in a composite VOC emissions reduction of 9.75 tons per day. To recap, CARB's 2006 Consumer and Commercial Products Survey found that the statewide VOC emissions contribution for artist solvent and thinners was 252.7 pounds per day. AQMD staff uses a 45% factor of the statewide emissions inventory based on population distribution to determine the South Coast AQMD jurisdiction emissions contribution.

$$252.7 \text{ lbs/day} * 0.45 = 113.7 \text{ lbs/day};$$

$$113.7 \text{ lbs/day} * 1 \text{ ton}/2000 \text{ lbs} = 0.057 \text{ tons per day}$$

Thus, the emissions foregone in the South Coast AQMD jurisdiction will be 113.7 lbs/day and is summarized in Table VIII-1 below.

TABLE VIII-1: BREAKDOWN OF EMISSIONS

INVENTORY DESCRIPTION	VOC EMISSIONS (tpd)
Rule 1143 Interim VOC Limit (300 g/L)	5.94
Rule 1143 Final VOC Limit (25 g/L)	3.81
Total Existing Emission Reductions Applied to Rule1143	9.75
Artist Solvent/Thinner Exemption	-0.057
Total Emission Reduction Applied to Rule 1143	9.69

The proposed amendments would result in an increase of 0.62% of VOC emissions foregone.

$$(9.75 \text{ tpd} - 9.69 \text{ tpd})/9.75 \text{ tpd} = 0.0062 = 0.62\%$$

IX. COST ANALYSIS

PAR1143 results in a cost savings to the industry, since they will be able to continue business as usual.

X. INCREMENTAL COST-EFFECTIVENESS

Under Health and Safety Code § 40920.6, the AQMD is required to perform an incremental cost analysis when adopting a Best Available Retrofit Control Technology (BARCT) rule or feasible measure required by the California Clean Air Act. To perform this analysis, the AQMD must (1) identify one or more control options achieving the emission reduction objectives for the proposed rule, (2) determine the cost effectiveness for each option, and (3) calculate the incremental cost effectiveness for each option. To determine incremental costs, the AQMD must “calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option.”

The proposed amendments to Rule 1143 do not implement a more restrictive BARCT or feasible control measure, and therefore § 40920.6 is inapplicable.

XI. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

~~Pursuant to California Environmental Quality Act (CEQA) and AQMD Rule 110, the AQMD staff has prepared a Draft Environmental Assessment (EA) and circulated it for a 45-day public review and comment period from September 30, 2010 to November 16, 2010. The only topic identified in the Draft EA that may be adversely affected by the proposed project is air quality. Comments on the Draft EA received within the public comment period will be included with response to comments in the Final EA. Copies of the Draft EA are available at AQMD Headquarters, by calling the AQMD Public Information Center at (909) 396-2039, or by accessing AQMD's CEQA website at: www.aqmd.gov/ceqa.~~

Pursuant to California Environmental Quality Act (CEQA) and AQMD Rule 110, the AQMD staff has prepared a Draft Environmental Assessment (EA) and circulated it for a 45-day public review and comment period from September 30, 2010 to November 16, 2010. No comments were received during the public comment period. The Draft EA has been revised and is now a Final EA. The only environmental topic identified in the Final EA that may be adversely affected by the proposed project is air quality. PAR 1143 would result in 113.7 pounds per day of VOC emission reductions foregone from exempting artist solvents and thinners, which exceeds the SCAQMD operational VOC significant threshold of 55 pounds per day. Since the operational VOC emissions would exceed the applicable significance threshold; VOCs are ozone precursors; and the district is classified as non-attainment for ozone; PAR 1143 may contribute to an existing or projected air quality violation. AQMD staff prepared Findings and a Statement of Overriding Considerations pursuant to state CEQA Guidelines §§15091 and 15093, respectively, regarding adverse environmental impacts that cannot be mitigated to insignificance; and since no mitigation measures were identified a mitigation monitoring and reporting plan pursuant to CEQA Guidelines §15097 is not required.

XII. SOCIOECONOMIC ASSESSMENT

PAR 1143 allows for an artist solvents and thinners exemption that provides regulatory relief because low-VOC artist solvents and thinners are currently not available on the market. Therefore, no socioeconomic impacts are anticipated from this proposal.

XIII. DRAFT FINDINGS

Health and Safety Code § 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 proposed amendment to Rule 1143 is necessary to allow the availability and use of certain types of solvents and thinners that are of vital importance to the artist industry. In addition, an exemption for artist solvents and thinners is required since no low-VOC alternatives have been identified for this niche category.

Authority - The AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Health and Safety Code §§ 39002, 40000, 40001, 40440, 40441, 40702, 41508, and 41700.

Clarity - The AQMD Governing Board has determined that Proposed Amended Rule 1143 - Consumer Paint Thinners & Multi-purpose Solvents, is written and displayed so that the meaning can be easily understood by persons directly affected by it.

Consistency - The AQMD Governing Board has determined that Proposed Amended Rule 1143 - Consumer Paint Thinners & Multi-purpose Solvents, 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 Proposed Amended Rule 1143 - Consumer Paint Thinners & Multi-purpose Solvents, 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 AQMD.

Reference - In adopting this regulation, the AQMD Governing Board references the following statutes which the AQMD hereby implements, interprets or makes specific: California Health and Safety Code §§ 40001, 40440, and 40702.

XIV. COMPARATIVE ANALYSIS

Health and Safety Code Section 40727.2

As required by Health and Safety Code § 40727.2, the purpose of this analysis is to identify and compare any other AQMD, state, or federal regulations that apply to the same equipment or source type contained in this rule proposal. Staff identified one regulation authored by the California Air Resources Board (CARB) that shares regulatory language with AQMD's Proposed Amended Rule (PAR) 1143 – Consumer Paint Thinners and Multi-Purpose Solvents. CARB's Consumer Products Regulations (CPR) is a multi-faceted regulation that regulates the consumer product industry including standards for multi-purpose solvents and paint thinners.

Staff has worked extensively with CARB to make PAR 1143 as consistent as possible with CARB's CPR. This amendment seeks to further align AQMD's PAR 1143 with CARB's CPR by proposing an amendment to include an Artist Solvents/Thinners exemption for products that are properly labeled and sold in containers that are one liter or less from applicable VOC limits and to clarify that all exempt products shall be subject to recordkeeping and reporting.

Affected sources under CARB's CPR include multiple categories of consumer products, including multi-purpose solvents and paint thinners. The proposed amendment to PAR 1143 will result in minor VOC emissions foregone but does not affect existing VOC limits. Therefore, PAR 1143 does not impose a new emission limit or standard, make an existing emission limit or standard more stringent, or impose new or more stringent monitoring, reporting or recordkeeping requirements [See California Health & Safety Code § 40727.2(g)].

Table XIV.1 immediately follows and shows a comparative analysis between AQMD PAR 1143 and CARB's CPR, for the multi-purpose and paint thinners categories only.

TABLE XIV-1: COMPARISON OF AQMD PAR 1143 TO CARB'S CPR

CATEGORY	SCAQMD PAR 1143 Consumer Paint Thinners & Multi-Purpose Solvents	CARB Consumer Products Regulations Sections: 94508, 94509, 94510, 94512, 94513, and 94515
Adoption Date	March 9, 2009	August 6, 2010
Purpose	Reduce VOC emissions from the use, storage and disposal of consumer paint thinners & multi-purpose solvents commonly used in thinning of coating materials, cleaning of application equipment, or other solvent cleaning operations by limiting their VOC content	Reduce VOC emissions for a wide variety of consumer products including multi-purpose solvent and paint thinner products which will partially fulfill the consumer product reduction commitment contained in the State Strategy for California's 2007 SIP
Applicability (to whom)	Rule 1143 applies to any person who sells, offers for sale, or manufactures, or any person who uses or solicits the use of any consumer paint thinners & multi-purpose solvents in the District	Except as provided in Sections 94509(i) and 94510, this article shall apply to any person who sells, supplies, offers for sale, or manufactures consumer products for use in the State of California.
Applicability (jurisdiction)	South Coast Air Quality Management District Jurisdiction Statewide Provisions: SCAQMD will recognize the statewide provisions set forth in the CPR, see "Other Elements" under General Prohibitions, shown in the CARB column, for details	Applicable in all areas of California outside the South Coast Air Quality Management District Statewide Provisions: See "Other Elements" under General Prohibitions for details
Averaging Provisions	Not Applicable	Not Applicable

Units	VOC Limit (Unit: Mass/Volume): Grams/Liter (g/L) or Pounds/Gallon (lb/G) Tier 1 – 300 g/L (2.50 lb/Gal), {Eff 1/1/10} Tier 2 – 25 g/L (0.21 lb/Gal), {Eff 1/1/11}	VOC Limit (Unit: %/Wt.): Percent by Weight VOC Determination Tier 1 – 30% by weight, {Eff 12/31/10} Tier 2 – 3% by weight, {Eff 12/31/13}
Operating Parameters	See Work Practices	See Work Practices
Work Practices	Any solvent container subject to the rule shall be closed when not in use. Solvent containers include: drums, buckets, cans, pails, trays or other application containers	No work practices cited in CPR
Method to Determine VOC	U.S.EPA Method 24 – or – SCAQMD Method 304	CARB Method 310
Monitoring	Not Applicable	Not Applicable

TABLE XIV-1: COMPARISON OF AQMD PAR 1143 TO CARB’S CPR, continued

CATEGORY	SCAQMD PAR 1143 Consumer Paint Thinners & Multi-Purpose Solvents	CARB Consumer Products Regulations Sections: 94508, 94509, 94510, 94512, 94513, and 94515
Reporting	All manufacturers and distributors subject to the rule shall report annually, a list of all their US distributors and on April 1 and each subsequent year thereafter, submit an Annual Quantity and Emissions Report. Proposed Amended Rule 1143 will clarify that all exempt products shall be subject to recordkeeping and reporting requirements	All responsible parties for multi-purpose solvent and paint thinner products shall report data regarding product sales and composition for the year 2011. Additional reporting requirements for Consumer Products that contain perchloroethylene or methylene chloride
Recordkeeping	On or before April 1, 2010 and each subsequent April each manufacturer subject to the rule shall maintain records for 5 years and such records shall be made available to the Executive Officer upon request Records to include: Product Formulation Records, Production Records, Distribution Records and Sales Records	On or before June 30, 2012, all responsible parties for multi-purpose solvent and paint thinner products shall submit reports to the Executive Officer Records to include: Company name, product name, category, product label, applicable product forms, and California sales

TABLE XIV-1: CONTINUES ON NEXT PAGE

TABLE XIV-1: COMPARISON OF AQMD PAR 1143 TO CARB'S CPR, continued

CATEGORY	SCAQMD PAR 1143 Consumer Paint Thinners & Multi-Purpose Solvents	CARB Consumer Products Regulations Sections: 94508, 94509, 94510, 94512, 94513, and 94515
Exemptions	<p>General Exemptions: None</p> <p>VOC Limit Exemptions: Solvents provided that they are labeled and designated exclusively for the clean-up of polyaspartic and polyurea coatings application equipment</p> <p>Thinners provided that they are labeled and designated exclusively for the thinning of Industrial Maintenance (IM) coatings, Zinc-Rich IM primers, and High Temperature IM coatings</p> <p>Artist solvents/thinners provided that they meet and are labeled to meet ASTM D4236-94 and designated exclusively to reduce the viscosity of, or remove, art coating compositions or components and are individually packaged in containers having a total capacity equal to or less than 1 liter</p> <p>No Small Container Exemption</p> <p>No Low-Vapor Pressure Provision in Proposed Amended Rule 1143</p>	<p>General Exemptions: Until December 31, 2013, the VOC limits and the prohibition of Aromatic Compounds shall not apply to paint thinners with a capacity less than or equal to 8 fluid ounces</p> <p>VOC Limit Exemptions: The CPR does not have a specific exemption for the clean-up of application equipment used for polyaspartic or polyurea coatings however, the definition for Multi-purpose Solvent, paragraph B, has language that states "Multi-purpose solvent does not include solvents used exclusively for the clean-up of polyaspartic and polyurea coatings"</p> <p>The CPR does not have a specific exemption for the thinning of Industrial Maintenance (IM) coatings however, the definition for Paint Thinners has language the states "products that are sold in containers of 5 gallons or more and labeled exclusively for the thinning of Industrial Maintenance Coatings, Zinc-Rich Primers, or High Temperature Coatings" are not included in the definition of "Paint Thinner"</p> <p>Artist's Solvent/Thinner provided they are labeled to meet ASTM D4236-95 (sic) and packaged in a container equal to or less than 32 fluid ounces (CARB has submitted an amendment to the CPR to increase the capacity to 34 fluid ounces)</p> <p>Temporary exemption for paint thinners sold and packaged in small containers less than or equal to 8 fluid ounces until December 31, 2013</p> <p>The VOC limits shall not apply to any Low-Vapor Pressure VOC</p>

TABLE XIV-1: COMPARISON OF AQMD PAR 1143 TO CARB’S CPR, continued

CATEGORY	SCAQMD PAR 1143 Consumer Paint Thinners & Multi-Purpose Solvents	CARB Consumer Products Regulations Sections: 94508, 94509, 94510, 94512, 94513, and 94515
Other Elements	<p>General Prohibition: No person shall supply, sell, offer for sale, manufacture, blend, package, or repackage any Consumer Paint Thinners & Multi-Purpose Solvents subject to Rule 1143 that contain in the excess of 0.1% by weight any Group II exempt compounds listed in Rule 102. Cyclic, branched, or linear methylated siloxanes (VMS) are not subject to this prohibition</p> <p>SCAQMD will recognize the statewide provisions set forth in the CPR, see adjacent column</p>	<p>General Prohibition: The CPR has state-wide requirements that will be effective on December 31, 2010, when no person shall sell, supply, offer for sale, or manufacture for use in California any multi-purpose solvent or paint thinning that contains: Chemical compounds that have a Global Warming Potential (GWP) Value of 150 or greater Methylene Chloride, Perchloroethylene, or trichloroethylene Greater than 1% “Aromatic Compounds” by weight</p>
	<p>Sell-through Provision: Tier 1 – One year (until January 1, 2011), allows sale and use of high-VOC solvents and thinners if manufactured prior to January 1, 2010 Tier 2 – One year (until January 1, 2012), allows sale and use of solvents and thinners that have more than 25 g/L VOC but less than 300 g/L VOC if manufactured prior to January 1, 2011</p> <p>An additional sell-through provision for consumer paint thinners manufactured prior to July 9, 2010 and labeled for more than one use including industrial maintenance coating thinning, may be sold, supplied, offered for sale, or used up to April 1, 2011</p>	<p>Sell-through Provision: Tier 1 – Three years (until December 31, 2013, allows sale and use of high-VOC solvents and thinners if manufactured prior to December 31, 2010 Tier 2 – Three years (until December 31, 2016, allows sale and use of solvents and thinners that have more than 3 percent by weight VOC but less than 30 g/L percent by weight VOC if manufactured prior to December 31, 2013</p> <p>Multi-purpose solvents and paint thinners that contain any chemical compound that has a GWP Value of 150 or greater; methylene chloride, perchloroethylene, or trichloroethylene; or greater than 1% aromatic compounds by weight and were manufactured before December 31, 2010, may be sold, supplied, or offered for sale until December 31, 2013</p>

XV. DRAFT CONCLUSIONS AND RECOMMENDATIONS

Staff recommends that Rule 1143 be amended as proposed to align the artist solvents and thinners exemption with CARB’s CPR.

XVI. PUBLIC COMMENTS AND RESPONSES

This section presents the comment letter that was received after the Wednesday, September 15, 2010 public workshop. The comment letter shows the paragraphs numbered which will correlate to staff responses following the reproduction of the comment letter. The public commenting period started on September 15, 2010 and continued up to the deadline September 24, 2010.

The following comment letter was received on September 24, 2010 from Charles H. Pomeroy, Partner with McKenna Long and Aldridge, Attorneys at Law, LLP, representing ACMI, the Art & Creative Materials Institute. The letter also included an attachment of a reproduced printed version of ASTM D4236-94 (Reapproved 2005) which is not reproduced in this report due to copyright laws.

Albany
Atlanta
Brussels
Denver
Los Angeles

**McKenna Long
& Aldridge_{LLP}**
Attorneys at Law

300 South Grand Avenue • 14th Floor • Los Angeles, CA 90071-3124
Tel: 213.688.1000 • Fax: 213.243.6330
www.mckennalong.com

New York
Philadelphia
San Diego
San Francisco
Washington, D.C.

CHARLES H. POMEROY
(213) 243-6256

EMAIL ADDRESS
cpomeroy@mckennalong.com

September 24, 2010

Via Email and U.S. Mail

Mr. Don Hopps
Air Quality Specialist
Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 E. Copely Drive
Diamond Bar, CA 91765

Re: Public Workshop: Proposed Rule 1143 Rulemaking for Artists

Dear Mr. Hopps:

Again, my client, the Art & Creative Materials Institute ("ACMI"), wishes to thank you and SCAQMD for holding the September 15, 2010 Public Workshop concerning the proposed amendment of Rule 1143 exempting Artist Solvent/Thinner. As we heard, you believe this amendment will be presented to the SCAQMD Governing Board on December 3rd. ACMI fully endorses the proposed amendment to Rule 1143. We concur with SCAQMD's position that the Rule 1143 modification remain consistent with the language provided by the California Air Resources Board ("CARB") definition of Artist's Solvent/Thinner in its Consumer Product Regulation. We further present this letter in support of the proposed amendment and also to confirm and clarify two issues discussed during the Workshop.

1-1

Following the SCAQMD Workshop presentation, representatives present from the coatings industry raised a concern regarding potential circumvention of the recently amended Rule 1143 through use of the proposed artist's exemption. One company representative specifically raised the question whether other companies could go through the D4236-94 testing and thereafter sell the product at Home Depot, Lowes or other large commercial hardware stores. In response, both CARB and SCAQMD suggested the container size and cost would preclude use by non-artists of the solvents. CARB also stated that it would be monitoring sales to determine if circumvention was occurring (and would modify the rule in the future if needed).

1-2

We agree with the statements made by SCAQMD and CARB, but also believe the proposed Artist Solvent/Thinner definition offers additional protection against

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Mr. Don Hopps
September 24, 2010
Page 2

circumvention. The D4236-94 protocol that is part of both the proposed Rule 1143 amendment and CARB rule (available on the CARB website and attached hereto), is a labeling practice for chronic health hazards limited to art materials sold exclusively for artist use. See D4236-94, sections 2.1.2 and 2.1.12. With this designated labeling, a product sold in a commercial hardware store would have to be sold solely for the purpose of artistic use. Presently, the large retail chains, such as Home Depot and Lowes, do not have an area designated for artistic products. Generally, it would appear unusual for a large commercial hardware store to identify exclusive shelf space for artistic products, which are inconsistent with the company business (i.e., home repair and improvement). Further, to meet D4236-94 and thus be specially identified for artistic use, the product presence at a commercial hardware store should be readily identifiable, thus permitting both SCAQMD and CARB a means to effectively monitor sales. Finally, artists are unlikely to purchase artist solvent at commercial hardware stores since specialty art stores are their traditional source and the quality of the product would potentially be less trustworthy (even if it came with D4236-94 labeling). Thus, the consumer artist acquiring D4236-94-labeled products is unlikely to buy these products at a hardware store, thereby reducing the economic incentive to stock a product that is unlikely to be purchased by the targeted consumer.

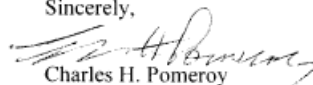
1-2

A second issue also discussed at the Workshop concerned the recent ACMI submission to CARB requesting that CARB's Artist's Solvent/Thinner definition be modified to allow for a maximum one liter container rather than a 32 ounce limit. Industry representatives present at the Workshop expressed support with ACMI's proposal, stating that the metric system conversion was consistent with their current business development and noting that the metric system was already used in Rule 1143 for the measurement of VOCs (i.e., grams per liter). Based on the general discussion, we understand that both CARB and the District support the change to a maximum one liter size (or perhaps 34 ounces to accommodate the one liter volume). We appreciate that support and await the final revised language for both CARB and SCAQMD.

1-3

On behalf of ACMI, I wish to thank you again for the opportunity to participate in this important subject. Please contact me should you require further information.

Sincerely,



Charles H. Pomeroy

CHP/cp
Enclosures

cc: Deborah M. Fanning, CAE, ACMI
Martin Neville, Esq.

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Response to Comment #1-1

Staff agrees with the comment that an Artist Solvent/Thinner exemption should be included in Rule 1143 but with the criteria of a size requirement, where any individual packaged container having a total capacity less than or equal to 1 liter and is labeled and designated exclusively to reduce the viscosity of, or remove, art coating compositions or components, and meets and is labeled to meet the requirements of ASTM D4236-94 (Reapproved 2005) the Standard Practice for Labeling Art Materials for Chronic Health Hazards. Staff has worked extensively with CARB staff to make the proposed rule language for the Artist Solvents/Thinners as consistent as possible with the language in their Consumer Products Regulation.

Response to Comment #1-2

Staff recalls the comment made during the public workshop regarding potential circumvention of the proposed rule language for Artist Solvents/Thinners and that non-artist companies could go through the ASTM D4236-94 testing and thereafter sell the products at home improvement stores such as Home Depot, Lowes, and other commercial hardware stores. The comment also points out that CARB and AQMD staff both commented at the public workshop that the container size of less than 1 liter and cost of the product would preclude use by the non-artists of the solvents. Staff has had discussions with CARB and was informed that solvents and thinners manufactured exclusively for artists can cost 4 to 5 times the price a similar size (capacity) product commonly found at a Home Depot would cost. Staff verified these costs and found that for a common quart size, the artist products cost 67.6% more than the general use consumer paint thinners and multi-purpose solvents commonly found in Home Depot, Lowes, and other commercial hardware stores, whereas for the gallon size, the artist products cost 54.1% more than the general use consumer paint thinners and multi-purpose solvents. Staff believes that these higher costs, even though much lower than CARB's estimates, and the 1 liter or less capacity requirement, will discourage circumvention by solvent and thinner users that do not use these types of products for non-artistic uses. Further, staff has reinforced the proposed definition by adding the following: "*Artist Solvents/Thinners do not include commercial-grade solvents or thinners*". Finally, staff believes that monitoring sales trends would be a viable tool to detect circumvention. Staff has revised the rule language in Rule 1143 to exempt Artist Solvents/Thinners from the VOC requirements in paragraph (d)(1). This clarification will require recordkeeping for all manufacturing and distribution facilities, artist and non-artist, as described in the rule, which will provide AQMD with data to monitor the sales trends for Artist Solvents/Thinners, in addition to the other exempt products in the rule that are labeled and designated exclusively for the clean-up of polyaspartic and polyurea coatings, and thinners that are labeled and designated exclusively for the thinning of Industrial Maintenance coatings, zinc-rich primers, and high temperature coatings. AQMD believes that all of these measures will discourage circumvention and allow staff to monitor and assess whether the exempt solvents are possibly being used improperly.

Staff also agrees with the comment that ASTM D4236-94 does indeed have language in sections 2.1.2 and 2.1.12 where section 1.2 of the ASTM states "*This practice applies exclusively to art materials packaged in sizes intended for individual users of any age or those participating in a small group.*" This language in ASTM D4236-94 and the language in proposed Rule 1143 paragraph (c)(1) both have language to require solvents and thinners that will be used for artist use shall be labeled and meet the requirements in ASTM D4236-94.

Response to Comment #1-3

Staff agrees. Staff has revised the proposed rule language and replaced 32 fluid ounces with 1 liter. The new language will read “Artist solvents/thinners provided that they are labeled and designated exclusively to reduce the viscosity of, or remove, art coating compositions or components and are individually packaged in containers having a total capacity equal to or less than 1 liter.”

XVII. REFERENCES

ASTM D4236-94 (Reapproved 2005), Standard Practice for Labeling Art Materials for Chronic Health Hazards

CARB, 2006 Consumer and Commercial Products Survey, 2009,
<http://www.arb.ca.gov/consprod/regact/2006surv/2006surv.htm>

CARB, Consumer Products Regulations, August 7, 2009,
<http://www.arb.ca.gov/regact/2009/cpmthd310/cpmthdisor.pdf>

AQMD Rule 1143 - Consumer Paint Thinners & Multi-Purpose Solvents, amended on June 4, 2010

AQMD Rule 1143 - Consumer Paint Thinners & Multi-Purpose Solvents, Current Amendment, amended on July 9, 2010

AQMD, Preliminary Draft Staff Report for Proposed Amended Rule 1143 - Consumer Paint Thinners & Multi-Purpose Solvents, posted on AQMD website on August 24, 2010

AQMD, Proposed Amended Rule 1143 - Consumer Paint Thinners & Multi-Purpose Solvents, posted on AQMD website on August 24, 2010