



South Coast Air Quality Management District

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SUBJECT: NOTICE OF COMPLETION OF A DRAFT ENVIRONMENTAL ASSESSMENT

PROJECT TITLE: PROPOSED RULE 1143 – CONSUMER PAINT THINNERS AND MULTI-PURPOSE SOLVENTS

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and has prepared a Draft Environmental Assessment (EA) to analyze environmental impacts from the project identified above pursuant to its certified regulatory program (SCAQMD Rule 110). The Draft EA includes a project description and analysis of potential adverse environmental impacts that could be generated from the proposed project. The purpose of this letter and the attached Notice of Completion (NOC) is to allow public agencies and the public the opportunity to obtain, review and comment on the environmental analysis.

This letter, the attached NOC, and the Draft EA are not SCAQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above project. If the proposed project has no bearing on you or your organization, no action on your part is necessary.

The Draft EA and other relevant documents may be obtained by calling the SCAQMD Public Information Center at (909) 396-2039 or accessing the SCAQMD's CEQA website at <http://www.aqmd.gov/ceqa/aqmd.html>. Comments focusing on your area of expertise, your agency's area of jurisdiction, or issues relative to the environmental analysis for the proposed project will be accepted during a 30-day public review and comment period beginning Thursday, November 13, 2008, and ending 5 p.m. on Friday, December 12, 2008. **Please send any comments to Ms. Barbara Radlein (c/o Office of Planning, Rule Development, and Area Sources) at the address shown above.** Comments can also be sent via facsimile to (909) 396-3324 or e-mail at bradlein@aqmd.gov. Ms. Radlein can be reached by calling (909) 396-2716. Please include the name and phone number of the contact person for your agency. Questions regarding the rule language should be directed to Mr. Don Hopps at (909) 396-2334.

The Public Hearing for the proposed project is scheduled for January 9, 2009. (Note: This public meeting date is subject to change.)

Date: November 12, 2008 **Signature:** Steve Smith
Title: Steve Smith, Ph.D.
Program Supervisor
Telephone: (909) 396-3054

Reference: California Code of Regulations, Title 14, §§15070, 15071, 15073, 15085, 15105, 15371, and 15372

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4182

NOTICE OF COMPLETION OF A DRAFT ENVIRONMENTAL ASSESSMENT

Project Title:

Draft Environmental Assessment (EA) for Proposed Rule (PR) 1143 – Consumer Paint Thinners and Multi-Purpose Solvents

Project Location:

South Coast Air Quality Management District (SCAQMD): the four-county South Coast Air Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties) and the Riverside County portions of the Salton Sea Air Basin and the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project:

The objective of PR 1143 is to implement Control Measure CTS-04 in the 2007 Air Quality Management Plan (AQMP) by reducing emissions of volatile organic compounds (VOC) from the use of consumer product paint thinners and multi-purpose solvents that are typically sold through retail outlets or through any persons acquiring a consumer product for resale of these materials within SCAQMD's jurisdiction. PR 1143 would: 1) effective January 1, 2010, establish a VOC limit of 25 grams per liter of material (0.21 pound per gallon of material) for consumer paint thinners and multi-purpose solvents; 2) establish a sell-through provision that would allow the use of consumer paint thinners and multi-purpose solvents manufactured prior to January 1, 2010 to be used up to six months after the final compliance date; 3) require manufacturers and their distributors to submit an application to obtain a distributor or manufacturer's identification number by July 1, 2009; 4) require point-of-sale containers to display the VOC content as supplied, the recommended dilution, if any, and the manufacture date; 5) establish an exemption for products sold in the district for shipment and use out of the district; and 6) establish exemptions for clean-up of application equipment for specialty coatings and for the use of products in analytical, educational and laboratory settings. PR 1143 is estimated to reduce VOC emissions by 9.85 tons per day by 2014. The environmental analysis in the Draft EA concluded that PR 1143 would not generate any significant adverse environmental impacts.

Lead Agency:

South Coast Air Quality Management District

Division:

Planning, Rule Development and Area Sources

Draft EA and all supporting documentation are available at:

SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

or by calling:

(909) 396-2039

Draft EA is available online by accessing the SCAQMD's website at:

<http://www.aqmd.gov/ceqa/aqmd.html>

The Public Notice of Completion is provided through the following:

Los Angeles Times (November 13, 2008) SCAQMD Website SCAQMD Mailing List

Draft EA Review Period (30-day):

November 13, 2008 to December 12, 2008

Scheduled Public Meeting Dates (subject to change):

SCAQMD Governing Board Hearing: January 9, 2009, 9:00 a.m.; SCAQMD Headquarters

The proposed project will have NO statewide, regional or areawide significance; therefore, NO scoping meeting was required or held for the proposed project pursuant to Public Resources Code §21083.9 (a)(2).

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Environmental Assessment for:

Proposed Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents

SCAQMD No. 11112008BAR

State Clearinghouse No: To Be Determined

November 2008

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CHAPTER 1

PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

Project Objective

Project Background

Project Description

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin referred to herein as the district. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the district². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. The 2007 AQMP concluded that major reductions in emissions of volatile organic compounds (VOC), oxides of sulfur (SO_x) and oxides of nitrogen (NO_x) are necessary to attain the air quality standards for ozone (the key ingredient of smog) and particulate matter (PM₁₀ and PM_{2.5}). Ozone, a criteria pollutant, is formed when VOCs react with NO_x in the atmosphere and has been shown to adversely affect human health and to contribute to the formation of PM₁₀ and PM_{2.5}.

The California Air Resources Board (CARB) generally has primary regulatory authority over consumer products. Consumer paint thinners and multi-purpose solvents are considered to be consumer products that contribute substantial VOC emissions within the district, but they are not yet regulated by CARB, which has authority to regulate emissions from consumer products. For this reason, these materials are considered by SCAQMD as one potential source where new VOC emission reductions can be achieved. As a result, the 2007 Air Quality Management Plan (AQMP) was adopted and includes control measure CM#2007CTS-04 – Emission Reductions from the Reduction of VOC Content of Consumer Products Not Regulated by the State Board, which seeks further VOC emission reductions from consumer products not otherwise regulated by CARB. Proposed Rule (PR) 1143 – Consumer Paint Thinners and Multi-Purpose Solvents, will implement CM#2007CTS-04 by reducing the VOC contents of these consumer products sold by suppliers, distributors, and retailers to consumers.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PR 1143 would regulate the VOC content of consumer paint thinners and multi-purpose solvents. Because the proposed project requires discretionary approval by a public agency, it is a “project” as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this draft Environmental Assessment (EA) with no significant adverse impacts pursuant to its Certified Regulatory Program. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110. Pursuant to Rule 110, SCAQMD has prepared this Draft EA.

CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Draft EA to address the potential adverse environmental impacts associated with the proposed project. The Draft EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).

² Health & Safety Code, §40460 (a).

³ Health & Safety Code, §40440 (a).

information on the environmental effects of the proposed project; and, (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

SCAQMD's review of the proposed project shows that the project would not have a significant adverse effect on the environment. Therefore, pursuant to CEQA Guidelines §15252, no alternatives or mitigation measures are required to be included in this Draft EA. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

PROJECT LOCATION

PR 1143 would apply to manufacturers, distributors and sellers of consumer paint thinners and multi-purpose solvents located throughout the SCAQMD's jurisdiction. The SCAQMD has jurisdiction over an area of 10,473 square miles, consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB) as shown in Figure 1-1. The Basin, which is a subarea of the district, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east.

PROJECT OBJECTIVE

The objectives of PR 1143 include the following:

- Implement the 2007 AQMP control measure CM#2007CTS-04 to lower the VOC content of consumer paint thinners and multipurpose solvents that are not currently regulated by CARB;
- Establish VOC content limits for consumer paint thinners and multi-purpose solvents at 25 g/L, which is achievable using currently available low- and zero- VOC technologies from manufacturers; and
- Obtain further VOC emission reductions from consumer paint thinners and multi-purpose solvents.

PROJECT BACKGROUND

A "consumer product," as defined under California Health and Safety Code section 41712(a)(1), is "a chemically formulated product used by household and institutional consumers, including, but not limited to, detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products, but does not include other non-aerosol paint products, furniture coatings, or architectural coatings." CARB has the authority to regulate certain consumer products; however, local air districts retain the authority to adopt VOC standards for any consumer product category for which CARB has not already adopted a standard. *See* Cal. Health & Safety Code § 41712(f). As such, given that CARB does not currently regulate consumer paint thinners and multi-purpose solvents, the SCAQMD has the authority to regulate this category of consumer products.



Figure 1-1
Boundaries of the South Coast Air Quality Management District

If there are no specific provisions in the Health and Safety Code regulating consumer paint thinners and multi-purpose solvents, the SCAQMD has the authority to regulate these categories of consumer products.

Based on CARB's projected inventories from various sources, the estimated emissions from the entire consumer products category for the entire state of California, when compared to emissions inventories of other large VOC source categories, is the largest category at 245 tons of VOC per day. Approximately 45 percent of the entire consumer products inventory or 110.3 tons of VOC per day is emitted within SCAQMD's jurisdiction. The 2007 AQMP estimated the inventory to be 107 tons of VOC per day by 2014 for all consumer products and 7.3 tons of VOC per day by 2014 for consumer paint thinners and multi-purpose solvents. However, a subset of the consumer products inventory from CARB's Category of Emission Sources (CES) #88047 for multi-purpose solvents estimates this portion of the VOC inventory to be slightly higher at 7.45 tons per day. In addition to the CES #88047 inventory for multi-purpose solvents, the inventories for two other CES sources, clean-up solvents (CES #92106) at 0.97 ton of VOC per day and thinning solvents (CES #92114) at 1.78 tons of VOC per day, are also included in the total inventory estimates for 2014. Thus, the 2014 baseline emissions for these three CES source categories are approximately 10.2 tons of VOC emissions per day. Using sales-weighted average VOC emissions of 96.68, it is estimated that PR1143 will reduce VOC emissions from the regulated substances by approximately 9.85 tons per day in 2014.

Consumer paint thinners and multi-purpose solvents are used for cleaning grease, oil, paint, and carbon deposits from tools, equipment, substrate pre-cleaning, thinning coatings and adhesives, and for other general cleaning purposes. The raw materials needed to formulate the paint thinners and multi-purpose solvents generally come from chemical plants and petroleum

refineries. Multi-purpose solvents are available at a variety of retail outlets, including nationwide merchants like Lowe's and Home Depot, as well as smaller hardware stores. Approximately 1.2 million⁴ gallons of high-VOC containing multi-purpose solvents are currently sold within SCAQMD's jurisdiction per year.

COMPLIANT TECHNOLOGIES

Although health-based standards have not been established for VOCs, adverse health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake in red blood cells. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be toxic air contaminants (TACs). VOCs are regulated primarily because they contribute to ozone formation. As a result, reducing VOCs emissions in the district has been an on-going priority effort by the SCAQMD. The following subsections identify potential compliant technologies that may be used to formulate compliant products.

Clean Air Solvents Program

By definition a consumer product is a chemically formulated product used by household and institutional consumers. Unlike industrial facilities, consumers are unable to install air pollution control technologies to collect and destroy air pollutant emissions. As a result, reducing VOC emissions from solvents and thinners is expected to rely solely on reformulating these products with low VOC or exempt solvents. Solvents used to reformulate compliant products are described in the next subsection.

As part of implementing SCAQMD Rule 1171 – Solvent Cleaning Operations⁵, the SCAQMD developed the Clean Air Solvent (CAS) program to highlight ultra-low VOC technologies, as well as provide a marketing tool for the manufacturers of these ultra-low VOC products. Information on the SCAQMD's CAS program can be found at the following website: <http://www.aqmd.gov/rules/cas/index.html>. In order to qualify for CAS certification the following criteria must be met:

1. VOC concentration is no more than 25 grams of VOC per liter of material, as applied;
2. Composite vapor pressure is no more than 5 mm Hg of VOC at 20°C (68° F);
3. Reactivity is not higher than toluene; and,
4. The product contains no compounds classified as either: a) a hazardous air pollutant (HAP) by the federal Clean Air Act; b) an ozone-depleting compound (ODC); or, c) a global warming compound (GWC).

Manufacturers, suppliers, and users can apply for certification of products that meet these CAS qualifications. The certification is valid for five years and can be renewed upon approval by the SCAQMD. The most common and effective cleaners that meet the CAS criteria are water-based or aqueous cleaners that contain little or no VOCs, although other options such as VOC-exempt compounds are also available.

⁴ This is based on a total inventory of 10.2 tons of VOC per day and a sales weighted average VOC content of 736 grams per liter.

⁵ Rule 1171 limits the VOC content of most cleaning solvents to 25 g/L or less.

Even though the CAS certification program was originally developed in association with Rule 1171, many of the solvent technologies from the CAS certification program can be used as consumer paint thinners and multi-purpose solvents under PR 1143. Specifically, there are 171 certified CAS solvents to date and 102 of these products can be used in the consumer market for compliance with PR 1143. The CAS product list is frequently reviewed and updated to reflect any new findings, especially those that may be directly applicable to the products that would be subject to PR 1143 requirements.

Low VOC and Exempt Solvents Expected to be Used to Formulate Compliant Products

The following categories of low- and zero-VOC technologies may be able to achieve a VOC material emission limit of 25 g/L or less and comply with PR 1143 requirements: 1) aqueous solvents; 2) exempt solvents and any blend of exempt solvents; and, 3) bio-based solvents for lowering the volatility of exempt solvents.

Aqueous Cleaners

On the open market, there are many aqueous based cleaners currently available for use; several have been certified by the SCAQMD's CAS certification program. Further, many manufacturers have developed waterborne products that already meet the lower VOC limits. Many of these products, especially coatings, do not require thinning, and are typically supplied as "ready to use." For some spray applications under certain climatic conditions, there are some waterborne coatings that can be thinned with water.

Exempt Solvent: Acetone

Acetone is a colorless, highly volatile liquid that has a fragrant, mint-like odor. Common uses for acetone are nail polish removers and for thinning paint. It has a high solvent strength greater than the other types of solvents, except for xylene, which has a similar solvent strength. Acetone is widely available at retail stores that sell solvents.

1. As a VOC: Acetone is currently listed as a Group I exempt solvent pursuant to SCAQMD Rule 102 – Definition of Terms. Acetone was originally "delisted" as a VOC by the EPA in 1995.
2. Flammability: Acetone is rated "three" for flammability by the NFPA. This means that acetone is considered to be a highly flammable solvent. Additional information on the flammability of acetone can be found in the "Hazards and Hazardous Materials" section in Chapter 2.
3. Toxicology: Acetone is rated "one" for health by the NFPA. This means that acetone is considered to have a slight health risk. Although acetone is naturally produced in the human body in very small amounts, it can be harmful if inhaled, ingested or absorbed through the skin and can be fatal in large quantities.

Exempt Solvent: Methyl Acetate

Methyl Acetate, also known as acetic acid, methyl ester or methyl ethanoate, is a colorless liquid with a fragrant, fruity odor. Methyl acetate is commonly used as a solvent in adhesives and nail polish removers.

1. As a VOC: Methyl acetate is currently listed as a Group I exempt solvent pursuant to SCAQMD Rule 102.
2. Flammability: Methyl acetate is rated “three” for flammability by the NFPA. This means that like acetone and parachlorobenzotrifluoride, methyl acetate is considered to be a highly flammable solvent (see “Hazards and Hazardous Materials” section in Chapter 2).
3. Toxicology: Methyl Acetate is rated “two” for health by the NFPA. This means that methyl acetate is considered to have a moderate health risk. Like acetone and PCBTF, the vapors from methyl acetate can irritate the nose, throat, skin, and eyes.

Exempt Solvent: Parachlorobenzotrifluoride

Parachlorobenzotrifluoride (PCBTF) is a colorless liquid with a distinct aromatic odor and is distributed under the brand name “Oxsol.” PCBTF is often used in the printing industry to dissolve ink, but may also be used as a cleaning solvent for other industries. Oxsol 100 and Oxsol 300 are used in the automotive industry for parts washing as a compliant replacement for Stoddard solvent.

1. As a VOC: PCBTF is currently listed as a Group I exempt solvent pursuant to SCAQMD Rule 102.
2. Flammability: PCBTF is rated “three” for flammability by the NFPA. This means that like acetone, PCBTF is considered to be a highly flammable solvent (see “Hazards and Hazardous Materials” section in Chapter 2).
3. Toxicology: PCBTF is rated “one” for health by the NFPA. This means that, like acetone, PCBTF is considered to have a slight health risk. The vapors from PCBTF can irritate the nose, throat, skin, and eyes.

Bio-Based Solvents

Several manufacturers have already formulated cleaning solvents using bio-based solvents or methyl esters via soy-, coconut and grape seed-based formulations. Several of these products have been certified pursuant to the SCAQMD’s CAS program and are currently available on the open market. Methyl esters can be used in solvent-based coatings because they are miscible in solvent. However, methyl esters are not miscible in waterborne products. Methyl esters also mix well with acetone and have been used to formulate blends so that the VOC material content is at or below 25 g/L and the overall volatility is reduced.

Table 1-1 contains a list of low-VOC products that already meet the proposed 25 g/L VOC material limit for both waterborne and solvent-based coatings and are currently sold at several suppliers. These products are expected to be used to comply with PR 1143.

**Table 1-1
Currently Available Low-VOC Products**

Product Name	Manufacturer Name	VOC _{MATERIAL} (g/L)
Low-VOC Lacquer Thinner	Bortz Distributing	< 25
Green Envy Paint Thinner	Sunnyside Corporation	19
Crown Paint Thinner NEXT	Packaging Services	0
Soylent Gold Soy-based Degreaser	RAMCO Specialty Products	25
VOC Exempt Reducer IS-256	Deft Finishes	0
VOC Exempt Reducer IS-276	Deft Finishes	0
VOC Compliant Thinner	Rust-Oleum Corporation	0
Thinner 243 E	Carboline Company	0

PROJECT DESCRIPTION

PR 1143 would apply to consumer paint thinners and multi-purpose solvents offered for sale and use within the district by manufacturers, suppliers, distributors and retailers and would limit the VOC content of these products available for purchase by consumers. The following summarizes these requirements. A copy of PR 1143 is included in Appendix A.

Purpose

The purpose of PR 1143 is to reduce VOC emissions from consumer paint thinners and multi-purpose solvents from the use, storage, and disposal of solvent materials commonly used for thinning materials, cleaning coating equipment, and other solvent cleaning activities.

Applicability

Suppliers, vendors, distributors, manufacturers, and users of paint thinners and multi-purpose solvents will be subject to the requirements of PR 1143.

Definitions

For the purpose of clarity and consistency throughout the rule, PR 1143 includes 15 definitions of the following terms: “consumer,” “distributor,” “formulation data,” “grams of VOC per liter of material,” “industrial maintenance coatings,” “lacquer thinners,” “multi-purpose solvents,” “paint thinner,” “person,” “retail outlet,” “solicit,” “solvents,” “solvent cleaning,” “solvent flushing,” and, “VOC.”

Requirements

PR 1143 contains a proposal to limit the VOC content of consumer paint thinners and multi-purpose solvents at 25 grams per liter (g/L) of material which is equivalent to 0.21 pounds per gallon (lb/gal) of material after any dilution effective January 1, 2010. PR 1143 also contains a “sell-through” provision that would allow applicable solvents that are manufactured prior to January 1, 2010 to be sold, offered for sale and used for up to six months after January 1, 2010. Manufacturers must also maintain sales and distribution records that clearly indicate the manufacture date, the solvent name and volume sold. This subdivision also contains a provision that would require solvent containers such as drums, buckets, cans, pails, trays or other application containers to be closed when not in use.

Administrative Requirements

PR 1143 contains a proposal that would require point-of-sale containers to display the VOC content as supplied, the recommended dilution, if any, and the manufacture date or code representing the manufacture date. In addition, PR 1143 would require manufacturers and distributors that sell and/or distribute paint thinners and multi-purpose solvents within the district to submit an application for an identification number and provide a list of all distributors within the United States on or before May 1, 2010. Beginning April 1, 2010, PR 1143 would also require each manufacturer and distributor to submit annual quantity and emissions reports.

Prohibition of Sale

PR 1143 contains a prohibition of sale that would restrict the sale or distribution of any paint thinner or multi-purpose solvent that exceeds the VOC limit of 25 g/L of material (0.21 lb/gal of material) within the district. However, if the sale or distribution occurs outside of the district or if the product qualifies for the sell-through provision, then the prohibition of sale would not apply.

Recordkeeping

PR 1143 would require manufacturers and distributors to maintain records for five years including but not limited to: 1) the receipt for the identification number application; 2) verification data for determining annual paint thinner and multi-purpose solvent sales and corresponding VOC emissions in the district; 3) other data needed to demonstrate compliance; 4) product formulation records; 5) production records; 6) distribution records; and, 7) sales records.

Compliance Dates

PR 1143 would require manufacturers and distributors to submit an application for an identification number no later than 30 calendar days prior to manufacturing, distributing or selling paint thinners and multi-purpose solvents for use in the district after July 1, 2009. In the event of a change in the manufacturer, PR 1143 would require the new manufacturer to apply for an identification number within 30 calendar days of the change, provided that the application references the previous manufacturer's identification number.

Confidentiality of Information

PR 1143 would allow submittals of information to the SCAQMD to be designated as confidential pursuant to the California Public Records Act in Government Code §§6250 – 6276.48, provided that the applicant provides a detailed and complete basis for the confidentiality claim.

Test Methods

PR 1143 would allow the most recently approved version of the following test methods to be used to verify compliance with the proposed rule requirements: 1) EPA Reference Test Method 24; and, 2) SCAQMD Method 304. However, other equivalent test methods that have been given written approval by the SCAQMD, CARB or EPA may also be used. Further, PR 1143 specifies certain perfluorocarbon compounds as exempt for the purpose of determining compliance with the proposed VOC limit. In the event of that multiple test methods are used to determine compliance and the results are not consistent, PR 1143 would consider any results from a test method that demonstrated non-compliance to be a violation of the rule.

Exemptions

PR 1143 would exempt solvents to be shipped outside of the district and solvents used for cleaning application equipment used to apply polyaspartic and polyurea coatings for architectural industrial maintenance coatings. In addition, PR 1143 would exempt reagents used for analytical, educational, research, and scientific purposes.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title: Proposed Rule (PR) 1143 – Consumer Paint Thinners and Multi-Purpose Solvents

Lead Agency Name: South Coast Air Quality Management District

Lead Agency Address: 21865 Copley Drive
Diamond Bar, CA 91765

CEQA Contact Person: Barbara Radlein, (909) 396-2716

PR 1143 Contact Person: Don Hopps, (909) 396-2334

Project Sponsor's Name: South Coast Air Quality Management District

Project Sponsor's Address: 21865 Copley Drive
Diamond Bar, CA 91765

General Plan Designation: Not applicable

Zoning: Not applicable

Description of Project: The objective of PR 1143 is to implement Control Measure CTS-04 in the 2007 Air Quality Management Plan (AQMP) to reduce emissions of volatile organic compound (VOC) emissions from the use of paint thinners and multi-purpose solvents that are typically sold through retail outlets or through any entity that uses, distributes or sells these materials within SCAQMD’s jurisdiction. PR 1143 would: 1) establish a VOC content limit of 25 grams per liter of material (0.21 pound per gallon of material) for consumer paint thinners and multi-purpose solvents, effective January 1, 2010; 2) establish a sell-through provision that would allow consumer paint thinners and multi-purpose solvents manufactured prior to January 1, 2010 to be used up to six months after the compliance date; 3) require manufacturers and their distributors to submit an application to obtain a manufacturer’s identification number by July 1, 2009; 4) require point-of-sale containers to display the VOC content as supplied, the recommended dilution, if any, and the manufacture date; 5) establish an exemption for products sold in the district for shipment and use out of the district; and 6) establish exemptions for the cleaning of application equipment when used for architectural maintenance specialty coatings used in analytical, educational and laboratory settings. PR 1143 is estimated to reduce VOC emissions by 9.85 tons per day by 2014. The environmental analysis in the Draft EA concluded that PR 1143 would not generate any significant adverse environmental impacts.

Surrounding Land Uses and Setting: Primarily residential and/or institutional

Other Public Agencies Whose Approval is Required: Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact issues have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input checked="" type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/
Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Solid/Hazardous Waste | <input type="checkbox"/> Transportation/
Traffic | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1)has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: November 12, 2008

Signature: Steve Smith
Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As discussed in Chapter 1, PR 1143 is estimated to reduce VOC emissions by 9.85 tons per day by 2014 by establishing a VOC limit of 25 grams per liter of material (0.21 pounds per gallon of material) for consumer paint thinners and multi-purpose solvents beginning January 1, 2010. The answers to the following checklist items are based on the assumption that new formulations of paint thinners and multi-purpose solvents would be used to meet the requirements of PR 1143. Therefore, no construction activities or equipment will be necessary to comply with PR 1143.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:			
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

I.a), b), c) & d) PR 1143 would reduce VOC emissions from paint thinners and multi-purpose solvents by establishing a VOC limit of 25 grams per liter of material (0.21 pounds per gallon of material) effective January 1, 2010. The primary method of compliance with PR 1143 will be reformulated paint thinners and multi-purpose solvents that are low-VOC or water-based products. Thus, implementation of PR 1143 would not result in any new construction of buildings or other structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Similarly, additional light or glare would not be created which would adversely affect day or nighttime views in the area since no light generating equipment would be required to comply with PR 1143. Further, the use of reformulated paint thinners and multi-purpose would not appreciably change the visual profile of the building(s) where the reformulated products are used.

Based upon these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this Draft EA. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES. Would the project:			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on agricultural resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

Discussion

II.a), b), & c) Since PR 1143 primarily relies on reformulated products for compliance, the proposed project would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Product reformulations would not require converting farmland to non-agricultural uses because the production and use of reformulated paint thinners and multi-purpose solvents would occur completely within the confines of affected residences’ or institutions’ boundaries.

Based upon these considerations, significant agricultural resource impacts are not anticipated and will not be further analyzed in this Draft EA. Since no significant agriculture resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

III.a) PR 1143 is being implemented to reduce VOC emissions from consumer paint thinners and multi-purpose solvents. Implementing PR 1143 would implement the 2007 AQMP control measure (CM#2007CTS-04), which seeks to further reduce VOC emissions from consumer products not regulated by CARB. Attainment of the state and federal ambient air quality standards protect sensitive receptors and the public in general from the adverse effects of criteria pollutants which are known to have adverse human health effects. Based on the discussion under items III. b, c) and f), reducing the VOC content of these consumer products as proposed in PR 1143, would contribute to carrying out the goals of the AQMP to reduce VOC emissions, which in turn, contribute to attaining the state and federal ambient air quality standards for ozone and, to a lesser extent, PM10 and PM2.5. Thus, PR 1143 will ultimately contribute to attaining and maintaining these ambient air quality standards with a margin of safety, which contributes to carrying out the goals of the 2007 AQMP.

As noted in the following analysis, PR 1143 will result in a permanent reduction of VOC emissions. Further, PR 1143 will not obstruct implementation of the AQMP. Therefore, the reduction of VOC emissions from implementing PR 1143 is a beneficial effect such that it will not be further analyzed in this Draft EA.

III.b), c) & f) For a discussion of these items, refer to the following analysis.

Air Quality Significance Criteria

To determine whether or not air quality impacts from adopting and implementing PR 1143 are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

Construction Impacts

Since PR 1143 will only affect future formulations of consumer paint thinners and multi-purpose solvents, implementation of PR 1143 is not expected to require physical changes or modifications that would involve construction activities. As a result, there will be no construction air quality impacts resulting from the proposed project. Therefore, potential construction air quality impacts will not be considered further in this Draft EA.

Operational Impacts – Direct

The overall objective of PR 1143 is to reduce VOC emissions from consumer paint thinners and multi-purpose solvents. PR 1143 is estimated to reduce VOC emissions from consumer paint thinners and multi-purpose solvents by 9.85 tons per day. Quantification of VOC emission reductions anticipated from implementing PR 1143 was derived from the current emission inventory for these consumer products. The following sections describe the methodology used to derive the emission inventory for consumer paint thinners and multi-purpose solvents and the VOC emission reductions anticipated for PR 1143.

VOC Emissions Inventory

Based on CARB's projected inventories from various sources, the estimated emissions from the entire consumer products category for the entire state of California, when compared to emissions inventories of other large VOC source categories, is the largest category at 245 tons of VOC per day. Approximately 45 percent of the entire consumer products inventory or 110.3 tons of VOC per day is emitted within SCAQMD's jurisdiction. The 2007 AQMP estimated the inventory to be 107 tons of VOC per day by 2014 for all consumer products and 7.3 tons of VOC per day by 2014 for consumer paint thinners and multi-purpose solvents. However, a subset of the consumer products inventory from CARB's CES #88047 for multi-purpose solvents estimates this portion of the VOC inventory to be slightly higher at 7.45 tons per day. In addition to the CES #88047 inventory for multi-purpose solvents, the inventories for two other CES sources, clean-up solvents (CES #92106) at 0.97 ton of VOC per day and thinning solvents (CES #92114) at 1.78 tons of VOC per day, are also included in the total inventory estimates for 2014. Thus, the 2014 baseline emissions for these three CES source categories are approximately 10.2 tons of VOC emissions per day. The following paragraphs show how the emission inventory for this category and anticipated VOC reductions from PR 1143 were derived

The volume for each CES category can be determined by using the sales-weighted average (SWA) of 736 g/L VOC material content as shown in the following calculations:

Sales-Weighted Average VOC content conversion from g/L to lb/day:

$$736 \text{ g/L} \times (1 \text{ lb/gal}/119.83 \text{ g/L}) = 6.14 \text{ lb/gal VOC, and,}$$

**Table 2-1
SCAQMD Air Quality Significance Thresholds⁶**

Mass Daily Thresholds		
Pollutant	Construction	Operation
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants and Odor Thresholds		
Toxic Air Contaminants (TACs) Accidental Release of Acutely Hazardous Materials (AHMs)	MICR \geq 10 in 1 million ; HI \geq 1.0 (project increment) CAA §112(r) threshold quantities	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants^(a)		
NO2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^(b) & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$	
PM2.5 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^(b) & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
Sulfate 24-hour average	1 $\mu\text{g}/\text{m}^3$	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

(a) Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

(b) Ambient air quality threshold based on SCAQMD Rule 403.

KEY: MICR = maximum individual cancer risk HI = Hazard Index
 $\mu\text{g}/\text{m}^3$ = microgram per cubic meter ppm = parts per million
 AHM = acutely hazardous material; TAC = toxic air contaminant

⁶ CEQA Air Quality Handbook, SCAQMD, November 1993.

Multi-Purpose Solvents (CES #88047):

Inventory = 7.45 tons VOC/day or 14,900 lb VOC/day
 (14,900 lb/day / 6.14 lb/gal) x 1 day = 2,426.7 gal/day or 885,746 gal/yr

Cleanup Solvents (CES #92106):

Inventory = 0.969 ton VOC/day or 1,938 lb VOC/day
 (1,938 lb/day / 6.14 lb/gal) x 1 day = 315.6 gal/day or 115,194 gal/yr

Thinning Solvents CES #92114:

Inventory: 1.783 tons VOC/day or 3,566 lb VOC/day
 (3,566 lb/day / 6.14 lb/gal) x 1 day = 580.8 gal/day or 211,992 gal/yr

As summarized in Table 2-2, the total solvent usage for the sum of these three solvent categories is estimated to be 3,323 gallons per day or 1,212,932 gallons per year.

Table 2-2
Estimated Usage of Consumer Paint Thinners and Multi-Purpose Solvents

Description	CES #	Daily Usage (gal)	Annual Usage* (gal)
Multi-purpose solvent	88047	2,426.7	885,746
Clean-up solvents	92106	315.6	115,194
Thinning solvents	92114	580.8	211,992
	TOTAL	3,323	1,212,932

* Annual usage is based on 365 days per year.

Using an SWA at 736 g/L VOC, PR 1143 estimates a reduction in VOC emissions by approximately 96.6 percent as calculated according to the following equation:

$$\{(SWA\ VOC - Proposed\ VOC) / SWA\ VOC\} = \{(736 - 25) / 736\} = 0.966\ or\ 96.6\%$$

The anticipated total emission reduction can then be calculated from the emissions inventory according to the following equation:

$$10.2\ tons/day \times 0.966 = 9.85\ tons/day\ of\ VOC\ reductions\ by\ 2014$$

Therefore, implementation of PR 1143 is expected to achieve VOC emission reductions up to 9.85 tons per day by the year 2014.

Toxicity of Cleaners and Solvents

The primary effect of PR 1143 is that it would establish a 25 g/L VOC material content limit for consumer paint thinners and multi-purpose solvents. However, PR 1143 does not dictate any particular product formulation. The proposed project may, however, result in the use of formulations that could potentially contain toxic constituents and pose flammability risks. Since there are many different product manufacturers and formulations of paint thinners and multi-

purpose solvents, as well as many different applications or uses, the specific chemical composition of the reformulated products is not known. Based upon currently available information, the primary replacement solvents are expected to be methyl acetate or PCBTF. Because of its cost, it is expected that acetone will also be widely used as a component of compliant products. However, acetone is currently used in multipurpose cleaning solvents in a variety of settings including: industrial, institutional, and commercial applications. All three of these solvents are listed as Group I exempt solvents in SCAQMD Rule 102. Like conventional solvents, the three solvents identified here as compliant replacement solvents, may have flammability and toxicological issues. However, there are other potential replacement solvents such as aqueous or water-based cleaning solvents, bio-based solvents, and methyl esters that are currently available and that are expected to be developed to comply, not only with PR 1143, but other low rules that regulate VOC emissions through solvent reformulations. These products can or are expected to be used as replacements that do not have flammability and toxicology concerns.

For the purpose of conducting a worse-case analysis, it is assumed that products compliant with PR 1143 would be formulated by using Group I exempt compounds to replace many organic solvents that contain toxic compounds currently used as paint thinners and multi-purpose solvents. Commonly used products that would likely be replaced include, for example, denatured alcohol (ethanol), methyl ethyl ketone (MEK), mineral spirits (Stoddard solvent), toluene, xylene, and varnish maker's and painter's (VMP) naphtha.

A compilation of toxicological information of representative conventional solvents and their possible replacements is given below. This information was extracted from the following sources: Agency for Toxic Substances and Disease Registry ToxFAQs; New Jersey's Department of Health, Right to Know Program's Hazardous Substance Fact Sheets; EPA's Integrated Risk Information System; EPA's Chemicals In the Environment: OPPT Chemical Fact Sheets; NIOSH Pocket Guide to Chemical Hazards; NIOSH Documentation for Immediately Dangerous to Life or Health Concentrations; OSHA Health Guidelines; and Department of Health and Human Services National Toxicology Program Chemical Repository.

Conventional Solvents

Consumer paint thinners and multi-purpose solvents are used for cleaning grease, oil, paint, and carbon deposits from tools, equipment, substrate pre-cleaning, thinning coatings and adhesives, and for other general cleaning purposes. The raw materials needed to formulate the paint thinners and multi-purpose solvents generally come from chemical plants and petroleum refineries. Multi-purpose solvents are available at a variety of retail outlets, including nationwide chain home improvement retail stores, as well as smaller hardware stores. Approximately 1.2 million⁷ gallons of high-VOC containing multi-purpose solvents are currently sold within SCAQMD's jurisdiction per year.

Table 2-3 summarizes the most commonly solvents currently used for cleaning and thinners available for purchase at hardware and chain home improvement retail stores and their chemical properties. One of the currently used solvents listed in Table 2-3, acetone, is also expected to be used to formulate compliant products as it is exempt as a VOC because it does not

⁷ This is based on a total inventory of 10.2 tons of VOC per day and a sales weighted average VOC content of 736 grams per liter.

contribute appreciably to ozone formation. These materials are typically sold in quart, gallon and five-gallon containers.

**Table 2-3
Common Multi-Purpose Solvents Available For Purchase at Hardware Stores¹**

Solvent Name	VOC Content (grams/liter)	Boiling Point (°F)	Flash Point ² (°F)	Health Rating ³	Flammability Rating ³	Evaporation Rate (Butyl Acetate = 1)
Acetone	exempt	133.2	4.6	1	3	5.7
Denatured Alcohol	797	150.8	53.5	1	3	2.3
Isopropyl Alcohol	786	180.0	53.0	1	3	2.3
Lacquer Thinner	797	212.6	7.4	2	3	2.7
Methyl Ethyl Ketone (MEK)	807	175.0	21.8	1	3	4.4
Mineral Spirits	781	349.9	104.7	1	2	0.1
Paint Thinner	838	299.6	93.6	2	3	1.4
Toluene	870	230.8	41.8	2	3	2.0
Turpentine	863	323.7	94.3	1	3	0.7
Varnish Makers & Printers Naphtha	754	266.9	53.1	1	3	1.2
Xylene	870	293.2	79.3	2	3	1.4

¹ Values in this table are based on averaged data from multiple Material Safety Data Sheets (MSDS).

² There are different methods that can be used to determine the flashpoint of a solvent but the most frequently used method is the Tagliabue Closed Cup standard (ASTM D56), also known as the TCC. The flashpoint is determined by a TCC laboratory device which is used to determine the flash point of mobile petroleum liquids with flash point temperatures below 175 °F (79.4 °C).

³ The meaning of the National Fire Protection Association's (NFPA) health and flammability ratings are as follows: "0" means least hazard potential, "1" means slight hazard potential, "2" means moderate hazard potential, "3" means high hazard potential, and "4" means extreme hazard potential.

The subsections below provide brief summaries of the physical and chemical properties of commonly used solvents currently used for cleaning and thinners available.

Acetone

1. Acetone is a colorless, highly volatile liquid that has a fragrant, mint-like odor. It is a manufactured chemical that is also found naturally in the environment. It occurs naturally in plants, trees, volcanic gases, forest fires, and as a product of the breakdown of body fat. It is present in vehicle exhaust, tobacco smoke, and landfill sites. Acetone is used to make plastic, fibers, drugs, and other chemicals. It is also used to dissolve other substances. Industrial processes contribute more acetone to the environment than natural processes. Common uses for acetone are nail polish removers and for thinning paint. It has a high solvent strength greater than the other types of solvents, except for xylene, which has a similar solvent strength. Acetone is widely available at retail stores that sell solvents.

2. As a VOC: Acetone is currently listed as a Group I exempt VOC pursuant to SCAQMD Rule 102 – Definition of Terms, because it does not contribute appreciably to ozone formation. Acetone was originally “delisted” as a VOC by the EPA in 1995.
3. Flammability: Acetone is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
4. Toxicology: Acetone is rated “one” for health by the NFPA which means that it is considered to have a slight health risk. Though acetone is naturally produced in the human body in very small amounts, acetone can be harmful if inhaled, ingested or absorbed through the skin and can be fatal in large quantities. Acetone is absorbed into the bloodstream and carried to all the organs in the body. If it is a small amount, the liver breaks it down to chemicals that are not harmful and uses these chemicals to make energy for normal body functions. Breathing moderate-to-high levels of acetone for short periods of time, however, can cause nose, throat, lung, and eye irritation; headaches; light-headedness; confusion; increased pulse rate; effects on blood; nausea; vomiting; unconsciousness and possibly coma; and shortening of the menstrual cycle in women. Swallowing very high levels of acetone can result in unconsciousness and damage to the skin in the mouth. Skin contact can result in irritation and damage to your skin.

Health effects from long-term exposures are known mostly from animal studies. Kidney, liver, and nerve damage, increased birth defects, and lowered ability to reproduce (males only) occurred in animals exposed long-term. It is not known if these same effects would occur in people. California does not list acetone as a reproductive toxicant under Proposition 65.

The Department of Health and Human Services, the International Agency for Research on Cancer, and the EPA have not classified acetone for carcinogenicity. Acetone does not cause skin cancer in animals when applied to the skin. It is unknown, however, if breathing or swallowing acetone for long periods will cause cancer. Studies of workers exposed to it found no significant risk of death from cancer. Acetone has not been identified by CARB as a TAC under AB 1807, but is listed in Category 3 (substances which are being evaluated for entry into Category 2) on the TAC Identification List. Acetone is also included in the list of “Substances for which emissions must be quantified” under AB 2588 Air Toxics “Hot Spots” Program. The 1990 Federal Clean Air Act Amendments do not list acetone as a HAP. Acetone is listed as a Group I exempt compound in SCAQMD Rule 102.

Denatured Alcohol

Denatured alcohol, also referred to as ethanol or ethyl alcohol, is used as a solvent and in making many commercial products. Denatured alcohol is a colorless liquid and has a strong odor of ethanol. The term “denatured” means that an additive has been mixed into the alcohol to make the taste unpleasant and toxic to human health so that it will not be consumed as a beverage. Typical additives are methanol, isopropyl alcohol, acetone, methyl ethyl ketone, methyl isobutyl ketone, Denatured alcohol is an ethanol that can be used as a solvent for cleaning and in some cases, thinning. It can also be used as an aid for sanding

wood. Denatured alcohol has a high VOC content and can be found for sale at most hardware stores.

1. As a VOC: Denatured alcohol has a high VOC material content that ranges from 791 g/L to 815 g/L.
2. Flammability: Denatured alcohol is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: Denatured alcohol is rated “one” for health by the NFPA which means that it is considered to have a slight health risk. Denatured alcohol vapors are an irritant of the eyes (can cause blindness) and respiratory system at concentrations ranging from 5,300 ppm to 10,600 ppm. Vapor concentrations above 20,000 ppm are considered intolerable. The no-effect level for irritation is considered to be 1,000 ppm. Inhalation of large concentrations of denatured alcohol causes narcosis, ataxia and lack of coordination. Death occurs at high doses from central nervous system depression. Inhalation of 10,000 ppm to 30,000 ppm over eight hours or more has caused death in rats. Chronic adverse effects on the liver have been observed in both animals and humans. Denatured alcohol has not been demonstrated to be carcinogenic; however, it may be a promoter or co-carcinogen in animals concurrently exposed to other carcinogens.

Isopropyl Alcohol

Isopropyl alcohol (IPA), also referred to as isopropanol, isopro, and rubbing alcohol, is a colorless liquid with a strong odor. IPA is a widely used solvent for medical and industrial applications because it sanitizes the treated area and dries rapidly. For industrial applications, IPA is commonly used to clean electronic circuits and electronic devices. IPA can be found for sale at hardware and drugstores stores.

1. As a VOC: IPA has a high VOC material content that ranges from 787 g/L to 815 g/L.
2. Flammability: IPA is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: IPA is rated “one” for health by the NFPA which means that it is considered to have a slight health risk. IPA is approximately twice as toxic as ethanol and can be fatal if swallowed and not treated. When ingested, IPA is first oxidized by the liver which in turn produces acetone. It can also irritate the eyes, nose, and throat for brief periods. Isopropyl oil, used in the manufacturing of IPA, has been linked to paranasal sinus cancer.

Lacquer Thinner

Lacquer thinner is manufactured from petroleum distillates and blended with other solvents; it offers similar properties as toluene but costs less. Lacquer thinner is mainly used as a thinning agent for nitrocellulose and acrylic lacquers, but can also be used as thinners for epoxies, automotive paint and gravure printing inks.

1. As a VOC: Lacquer thinner has a high VOC material content that ranges from 739 g/L to 850 g/L.
2. Flammability: Lacquer thinner is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: Lacquer thinner is rated “two” for health by the NFPA which means that it has a moderate health risk. The vapors from lacquer thinner can irritate the eyes, skin and upper respiratory tract and can cause headache, nausea, dizziness, and loss of coordination. If absorbed through the skin, lacquer thinner can cause redness.

Methyl Ethyl Ketone

Methyl ethyl ketone (MEK), also known as butanone, is a manufactured organic solvent and has a butterscotch odor similar to acetone. MEK is an effective solvent because of its ability to dissolve gums, resins, cellulose acetate and nitrocellulose coatings.

The primary use of methyl ethyl ketone (MEK), accounting for approximately 63 percent of all use, is as a solvent in protective coatings. It is also used as a solvent in printing inks, paint removers, and other cleaning products; in the production of magnetic tapes; and in dewaxing lubricating oil. MEK is used as a chemical intermediate in several reactions, including condensation, halogenation, ammonolysis, and oxidation. Small amounts of MEK are also used as a sterilizer for surgical instruments, hypodermic needles, syringes, and dental instruments; as an extraction solvent for hardwood pulping and vegetable oil; and as a solvent in pharmaceutical and cosmetic production.

1. As a VOC: MEK has a high VOC material content that ranges from 803 g/L to 810 g/L.
2. Flammability: MEK is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: MEK is rated “one” for health by the NFPA which means that it is considered to have a slight health risk. Breathing MEK for short periods of time, such as when painting in a poorly vented area, can adversely affect the nervous system. Effects range from headaches, dizziness, nausea, and numbness in fingers and toes to unconsciousness. MEK vapor irritates the eyes, the nose, and the throat. Direct, prolonged contact with liquid MEK irritates the skin and damages the eyes. Human health effects associated with breathing or otherwise consuming smaller amounts of MEK over long periods of time are not known. Workers have developed dermatitis, upset stomachs, loss of appetite, headaches, dizziness, and weakness as a result of repeated exposure to MEK. Laboratory studies show that exposure to large amounts of MEK in air causes animals to give birth to smaller offspring. Studies also show that repeated exposure to large amounts of MEK in air causes adverse liver and kidney effects in animals. The 1990 Clean Air Act Amendments list MEK as a hazardous air pollutant because it has been shown to have mutagenic effects in bacteria and possible teratogenic effects in humans.

Mineral Spirits

Mineral spirits, also known as Stoddard solvent, is a petroleum distillate that is used to remove oils, grease, and carbon and is added to thread cutting oils as a cleaning agent. Mineral spirits can be further refined so that the aromatics are removed which results in a product called “odorless” mineral spirits. Odorless mineral spirits are favored for oil painting because they are less toxic and do not emit strong odors like unrefined mineral spirits.

1. As a VOC: Mineral spirits has a high VOC material content that ranges from 759 g/L to 790 g/L.
2. Flammability: Mineral spirits is rated “two” for flammability by the NFPA which means that is considered to be moderately flammable.
3. Toxicology: Mineral spirits is rated “one” for health by the NFPA which means that it is considered to have a slight health risk. The vapors from mineral spirits can irritate the eyes, nose, throat, skin, and in larger doses can cause chemical pneumonitis. The International Agency for Research on Cancer (IARC) has determined that Stoddard solvent is not classifiable as to its carcinogenicity to humans.

Paint Thinner

Paint thinner is a petroleum distillate similar to odorless mineral spirits. The primary purpose of paint thinner is to thin oil-based paint. However, paint thinner is effective for degreasing tools and general household cleaning.

1. As a VOC: Paint thinner has a high VOC material content that ranges from 775 g/L to 882 g/L.
2. Flammability: Paint thinner is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: Paint thinner is rated “two” for health by the NFPA which means that it has a moderate health risk. The vapors from paint thinner can irritate the eyes, nose, and throat and can cause headaches and dizziness.

Toluene

Toluene is a colorless liquid that has a sweet, pungent, benzene-like odor. The largest use for toluene is for the production of benzene. Toluene has the following applications: 1) as an octane booster or enhancer for blending gasoline; 2) as a raw material for making toluene diisocyanate; 3) as a solvent; and 4) for solvent extraction processes. As a solvent, it may be used in aerosol spray paints, wall paints, lacquers, inks, adhesives, natural gums, and resins, as well as in a number of consumer products, such as spot removers, paint strippers, cosmetics, perfumes, and antifreezes.

1. As a VOC: Toluene has a high VOC material content of 863 g/L.

2. Flammability: Toluene is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: Toluene is rated “two” for health by the NFPA which means that it has a moderate health risk. Toluene vapors can be intoxicating but in large doses, they can cause extreme fatigue, mental confusion, nausea, headache and dizziness. Since toluene has low water solubility, it cannot exit the body through normal routes such as sweat, urine, or feces. Breathing large amounts of toluene for short periods of time adversely affects the human nervous system, the kidneys, the liver, and the heart. Effects range from unsteadiness and tingling in fingers and toes to unconsciousness and death. Direct, prolonged contact with toluene liquid or vapor irritates the skin and the eyes. Human health effects associated with breathing or otherwise consuming smaller amounts of toluene over long periods of time are not known. Repeatedly breathing large amounts of toluene, such as when "sniffing" glue or paint, can cause permanent brain damage. As a result, humans can develop problems with speech, hearing, and vision. Humans can also experience loss of muscle control, loss of memory, and decreased mental ability. Exposure to toluene can also adversely affect the kidneys. Laboratory animal studies and, in some cases, human exposure studies show that repeat exposure to large amounts of toluene during pregnancy can adversely affect the developing fetus. Other studies show that repeat exposure to large amounts of toluene adversely affects the nervous system, the kidneys, and the liver of animals. The Clean Air Act Amendments of 1990 list toluene as a hazardous air pollutant. Toluene is also listed in Table I of SCAQMD Rule 1401 – New Source Review of Toxic Air Contaminants.

Turpentine

Turpentine, a bio-based solvent used as a thinning solvent for oil-based paints, is manufactured from distilling pine tree sap into a fluid.

1. As a VOC: Turpentine has a high VOC material content of 863 g/L.
2. Flammability: Turpentine is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: Turpentine is rated “one” for health by the NFPA which means that it is considered to have a slight health risk. The vapors from turpentine can burn the skin and eyes, as well as cause damage to both the respiratory and central nervous systems.

Varnish Makers and Printers Naphtha

Varnish makers and printers (VM&P) naphtha, also known as petroleum ether, is a petroleum-based chemical that is commonly used as a cleaning solvent and is manufactured by distilling petroleum or coal tar.

1. As a VOC: VM&P naphtha has a high VOC material content that ranges from 750 g/L to 875 g/L.
2. Flammability: Naphtha is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.

3. Toxicology: Naphtha is rated “two” for health by the NFPA which means that it has a moderate health risk. Short-term exposure to high levels of naphtha can cause headaches, dizziness, confusion, lack of muscle coordination, and sense of balance. Other symptoms can also include irritation of the skin, nose, eyes, throat, and stomach discomfort but at higher levels naphtha can cause unconsciousness which could result in death.

Xylene

Xylene is a colorless, sweet-smelling liquid that is produced from petroleum. The term xylene, also known as xylol, refers to a mixture of three benzene derivatives (isomers) that can be differentiated by the following forms: meta-xylene (m-xylene), ortho-xylene (o-xylene), and para-xylene (p-xylene). Xylene can also occur naturally in petroleum and coal tar and is formed during forest fires. Chemical industries produce xylene from petroleum. It is one of the top 30 chemicals produced in the United States in terms of volume. Xylene is used as a solvent and in the printing, rubber, and leather industries. It is also used as a cleaning agent, paint thinner, and in paints and varnishes. It is found in small amounts in airplane fuel and gasoline.

1. As a VOC: Xylene has a high VOC material content that ranges from 860 g/L to 872 g/L.
2. Flammability: Xylene is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: Xylene is rated “two” for health by the NFPA which means that it has a moderate health risk. Short-term exposures to high levels of xylene can cause headaches, dizziness, confusion, and lack of muscle coordination and sense of balance. Other symptoms can also include irritation of the skin, nose, eyes, throat, and stomach discomfort, but at higher levels, xylene can cause unconsciousness. High levels of exposure for short periods (14 days or less) or long periods (more than one year) can cause headaches, lack of muscle coordination, dizziness, confusion, and changes in one's sense of balance. Exposure of persons to high levels of xylene for short periods can also cause irritation of the skin, eyes, nose, and throat; difficulty in breathing; problems with the lungs; delayed reaction time; memory difficulties; stomach discomfort; and possibly changes in the liver and kidneys. It can cause unconsciousness and even death at very high levels.

Studies of unborn animals indicate that high concentrations of xylene may cause increased numbers of deaths, and delayed growth and development. In many instances, these same concentrations also cause damage to the mothers. It is unknown if xylene harms the unborn child if the mother is exposed to low levels of xylene during pregnancy. The International Agency for Research on Cancer (IARC) has determined that xylene is not classifiable as to its carcinogenicity in humans. Human and animal studies have not shown xylene to be carcinogenic, but these studies are not conclusive and do not provide enough information to conclude that xylene does not cause cancer. The Clean Air Act

Amendments of 1990 list xylene as a hazardous air pollutant. Because xylene can cause adverse health effects other than cancer, it is listed in Table I of Rule 1401.

Potential Replacement Solvents

Acetone

For information on the physical, chemical, and health characteristics of acetone, see the acetone discussion in the “Conventional Solvents” subsection above.

Methyl Acetate

Methyl acetate, also known as acetic acid methyl ester or methyl ethanoate, is a clear, flammable liquid with a characteristic smell like certain glues or nail polish removers. Methyl acetate is used as a solvent in glues and nail polish removers, in chemical reactions, and for extractions. Methyl acetate is a non-polar (lipophilic) to weakly polar (hydrophilic) aprotic solvent.

1. As a VOC: Exempt pursuant to EPA and listed as exempt in Rule 102, class I.
2. Flammability: Methyl acetate is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: Methyl acetate is rated “two” for health by the NFPA which means that it is a moderate health risk. Methyl acetate is not listed as a HAP in the 1990 Federal Clean Air Act Amendments, nor is it listed as a toxic chemical under Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986. OEHHA has determined that methyl acetate is an eye and mucous membrane irritant that can cause unconsciousness in animals at high doses. Methyl acetate is also a reproductive system toxicant at low doses because it can metabolize to methanol.

PCBTF (parachlorobenzotrifluoride)

PCBTF is a colorless liquid with a distinct aromatic odor. It is commonly used as an ink solvent in the printing industry and is sold under the brand name Oxsol 100. PCBTF had originally been used as an intermediate in the production of other compounds, but more recently has been marketed as a cleaning solvent. Because it is only manufactured in a limited number of countries overseas (e.g., China), it is considered to be expensive due to high shipping costs relative to other possible solvent replacements.

1. As a VOC: Exempt pursuant to EPA and listed as exempt in Rule 102, class I.
2. Flammability: PCBTF is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.
3. Toxicology: PCBTF is rated “one” for health by the NFPA which means that it is considered to have a slight health risk. PCBTF is slightly irritating to the eyes and skin. Uses of PCBTF include industrial solvent cleaning, aerosols, adhesives, coatings, and inks. Under these applications, the major routes of exposure are considered to be through the skin and by inhalation. The estimated rat oral LD50 is greater than 6.8

grams per kilogram; the acute dermal toxicity (LD50) value is greater than 2.7 grams per kilogram in rabbits. The acute inhalation toxicity LD50 is 4,479 ppm.

PCBTF is not absorbed into the body to any appreciable extent. Most of the material is either exhaled or excreted. At concentration levels greater than 250 ppm of PCBTF and for exposures greater than 90 days, slight liver damage was observed. Animal studies indicate that PCBTF is not a reproductive toxin. Potential chronic toxicity or carcinogenicity data on PCBTF was not available.

Neither the California Air Pollution Control Officers Association (CAPCOA) nor the USEPA has developed non-cancer health standards for acute or chronic exposures to PCBTF. The State of California has not listed PCBTF as a reproductive toxin under Proposition 65. Neither the International Agency for Research on Cancer nor the USEPA has classified PCBTF for carcinogenicity. PCBTF is not listed under California's Proposition 65 as a carcinogen and has not been identified by CARB as a TAC under AB 1807. PCBTF is not listed under AB 2588 Air Toxics "Hot Spots" Program or as a HAP in the 1990 Federal Clean Air Act Amendments.

Comparison of Conventional Solvents and Potential Replacement Solvents

The potential for significant adverse toxic impacts is dependent on a number of variables. These include the specific chemical composition of the solvents used to meet the requirements of PR 1143, the amounts that are used, and the chemical composition of the materials to be replaced (i.e., cleaning materials formulated with conventional solvents also may contain toxic or otherwise hazardous air pollutants). Previous CEQA analyses of the potential toxic impacts from the rules anticipated to use reformulated solvents have determined that the toxicity of conventional solvent replacements is generally offset by the toxicity of the solvents that they would replace.

In addition, staff further compared the toxicity of conventionally used solvents to those expected to be used in reformulated, replacement products. Using the exposure values set by a variety of government agencies, staff compared the Threshold Limit Values (TLVs) established by the American Conference of Governmental Industrial Hygiene (ACGIH), the Permissible Exposure Limits (PELs) set by the Occupational Safety and Health (OSHA), the Immediately Dangerous to Life and Health (IDLH) levels recommended by the National Institute for Occupational Safety and Health (NIOSH), and cancer and non-cancer health effects

As summarized in Table 2-4, some of the replacement solvents have lower TLVs, PELs, and IDLHs than the conventional solvents. Based on these values, acetone would be considered the least toxic of all of the potential replacement solvents. Similarly, conventional solvents tend to have cancer and non-cancer health effects associated with them, unlike the replacement solvents.

Based on the comparisons of toxicity and regulatory exposure limits, any increased use of reformulated materials that may contain toxics will generally result in a concurrent decrease in the use of conventional solvents that contain toxic materials. PR 1143 is expected to result in a reduction in the use of conventional solvents region wide and at individual facilities or residences where these materials are used. Since acetone is expected to be the primary replacement solvent, exposure to air toxics will remain approximately equivalent compared to

the use of conventional solvents. Therefore, toxic air contaminant impacts would not be expected to change significantly from existing conditions. With regard to cancer and noncancer health risks, none of the replacement solvents are on any cancer lists. Considering the toxicity of currently used conventional solvents, there is no substantive evidence that shows the use of those solvents identified as possible replacements would result in significant adverse toxic air contaminant impacts.

Table 2-4
Regulatory Exposure Limits of Conventional and Potential Replacement Solvents

Solvent Names	TLV (ppm) ¹	PEL (ppm) ²	IDLH (ppm) ³	Air Toxic
<i>Conventional Solvents</i>				
Denatured Alcohol (Ethanol)	1,000	1,000	3,300*	Ethanol – No ⁴
Methyl Ethyl Ketone (MEK)	200	200	3,000	Non-cancer health effects
Toluene	50	200	500	Cancer risk in animals
Xylene	100	100	900*	Non-cancer health effects
Mineral Spirits (Stoddard)	100	500	3,400	Not classifiable for human
<i>Potential Replacement Solvents</i>				
Acetone	500	1000	2,500*	Not classifiable for human/animal
Methyl Acetate	200	200	3,100*	No
PCBTF ⁵	Not Established	Not Established	Not Established	No

¹ ACGIH ² OSHA ³ NIOSH ⁴ Denaturing constituents may be carcinogenic ⁵ The manufacturer recommends an exposure limit of 25 ppm. * Based on 10 percent of the lower explosive limit (LEL).

Reactivity

The SCAQMD has received both written and oral comments stating that PR 1143 should include both mass-based VOC limits and reactivity-based standards. PR 1143 would regulate thinners and solvents by establishing mass-based VOC content limits. The following paragraphs provide background information and the SCAQMD position on why a reactivity-based approach is not used.

Different types of solvents have different degrees of "reactivity," which is the ability to accelerate the formation of ground-level ozone. Coating manufacturers and coating contractors assert that the reformulated compliant low-VOC water- and solvent-borne coatings contain solvents that are more reactive than the solvents used in conventional coating formulations.

Furthermore, water-borne coatings perform best only under warm, dry weather conditions, and are typically recommended for use between May and October. Since ozone formation is also dependent on the meteorological conditions, use of coatings containing VOCs during this period increases the formation of ozone.

The use of reactivity as a regulatory tool has been debated at the local, state, and national level for over 25 years. For example, CARB incorporated a reactivity-based control strategy into its California Clean Fuel/Low Emissions Vehicle regulations, where reactivity adjustment factors are employed to place regulations of exhaust emissions from vehicles using alternative fuels on an equal ozone impact basis. CARB has also approved reactivity-based regulations for aerosol coatings. CARB is evaluating a similar strategy for consumer products and industrial emissions, and contracted with Dr. William Carter, College of Engineering Center for Environmental Research and Technology (CE-CERT) at the University of California at Riverside (UCR) for several studies to assess the reactivities of VOC species found in the consumer products emissions inventory. The studies have been aimed at determining the specific VOC speciation for products, and developing more accurate data on compounds commonly found in either water borne coatings, solvent-borne coatings, or both (e.g., glycol ethers, esters, isopropyl alcohol, methyl ethyl ketone (MEK), and an octanol).

In July 2001, the CARB conducted a survey of companies that sold architectural coating products in California in 2000. This report contains a detailed analysis of the photochemical reactivity associated with architectural coatings, based on results from that survey. This document is intended to provide different options for evaluating the reactivity of architectural coatings, but it is not a formal regulatory document. CARB's 2001 Architectural Coating Survey gathered detailed sales information and speciation of VOCs in product formulations, with ingredients reported to the 0.1 weight percent level. When coatings are applied, they release different types of organic compounds that can react in the atmosphere to produce different amounts of ozone. This ozone forming potential is called hydrocarbon reactivity and it is determined by the photochemical reactions in the atmosphere. If a coating contains a small amount of a highly reactive compound, it could have a relatively high reactivity rating even if it has a low level of volatile organic compounds (VOCs). Similarly, a coating that has a high VOC content may have a relatively low reactivity rating, if it contains compounds that aren't very reactive.

As an active member of the Reactivity Research Working Group (RRWG), a public-private partnership with a charter to conduct research on reactivity-based controls to determine whether it is feasible as an alternative compliance option, SCAQMD staff has coordinated their current efforts with CARB and RRWG. The RRWG's efforts to date have found that different VOC species have varying reactive properties to form ozone under the same NO_x environment. However, RRWG's efforts have also highlighted the need for additional work needed to reduce the uncertainty associated with the reactivity values determined using an environmental chamber, especially for the most commonly used solvents used in a variety of applications. The overall goal is to assess the feasibility of this optional strategy that could potentially allow manufacturers to use greater quantities of less reactive solvents and reduce the quantity of higher reactive solvents to achieve the same level of ozone reductions as those achieved through mass reduction. The environmental chambers previously used to develop the existing models had a number of limitations, particularly for evaluating effects on some VOC species. Because of this, in 1998, the U.S. EPA provided three million dollars in funding to CE-CERT at UCR for the design to

construct and operate a state-of-the-art, next-generation environmental chamber facility capable of obtaining the data needed for assessing the use of reactivity data as an alternative ozone control strategy to the established mass reduction method (Carter et al, 1999; Carter, 2002a). This chamber was completed in 2005 and successfully employed to evaluate mechanisms for photochemical ozone formation under low NO_x conditions (Carter 2004), as well as being used for other projects.

CARB, along with the SCAQMD, contracted with CE-CERT to utilize the new chamber to improve reactivity assessments of some solvent species, with each group funding the evaluation of certain VOC species most commonly used in architectural coatings. Due to limited funding available to both agencies, CARB funded a subset of VOCs most commonly used in solvent-based coating formulations as well as Texanol⁸ (an ester alcohol), whereas the SCAQMD funding was used exclusively for the most common VOC species used in waterborne formulations.

The CARB project involved conducting ozone reactivity experiments on seven different types of coatings VOCs, which were to be determined in consultation with the CARB staff and the CARB's Reactivity Research Advisory Committee (RRAC). As is the case with the RRWG, the RRAC consists of representatives of industry and regulatory groups, including the SCAQMD. The compounds chosen for study for that project included Texanol®, an important compound in water-based coatings, and six different types of petroleum distillates that are utilized in solvent-based and (to a lesser extent) water-based coatings. A report on the CARB study (Carter and Malkina, 2005) has yielded useful information concerning the atmospheric ozone impacts of these compounds and the ability of the current SAPRC-99 detailed chemical mechanism (Carter, 2000a) to accurately simulate these impacts (Carter and Malkina, 2005).

In addition to verifying the reactivity data for solvents found in waterborne coatings, the study funded by the SCAQMD also evaluated the issue of the ability of low volatility or highly hydrophilic solvents to react in the gas phase and promote ozone formation as another area of potential concern when assessing ozone impacts of VOCs. If these compounds tend to be absorbed to any significant extent on surfaces or PM before they have a chance to react in the gas phase, then their actual impact on ozone formation would be less than predicted using gas-phase mechanisms in current models. In 1999, the RRWG identified the need for this type of assessment, but has funded research focusing on modeling. The SCAQMD-funded study is the first actual environmental chamber experiments for assessing availability of the VOC species and evaluating model predictions of availability. Furthermore, the SCAQMD-funded study included an objective to assess the PM formation potential of all the solvents studied for the CARB- and SCAQMD projects. The specific objectives and work carried out for this project are described below.

- Conduct environmental chamber experiments for reactivity assessment and chemical mechanism evaluation for several types of coatings or solvent VOCs selected by the SCAQMD in conjunction with discussions with the CE-CERT investigators and RRAC. The compounds chosen for study were propylene and ethylene glycols, diethylene glycol

⁸ Texanol is a registered trademark of Eastman Chemical Company. It is used throughout this report rather than the generic chemical name for simplicity.

n-butyl ether (2-(2-Butoxyethoxy)-ethanol, or dipropylene glycol butyl ether, DGBE), and benzyl alcohol. The two glycols were considered not to have uncertain mechanisms, but were studied because of their extreme importance in the emissions inventories. DGBE was studied because it is also important in the water-based coatings inventory and has not been experimentally studied previously. Benzyl alcohol was studied because it is also emitted to some extent and had extremely high chemical mechanism uncertainty.

- Conduct measurements of PM formation in reactivity assessment and mechanism evaluation experiments, not only for this project, but also for the experiments carried out for the CARB coatings reactivity project. The data obtained can then be used to evaluate, at least in a qualitative sense, the PM formation potentials of the types of VOCs studied, and be available for potentially developing and evaluating models for their impacts on PM formation in the atmosphere.
- Carry out a limited number of experiments to characterize background effects related to PM formation that can be used when interpreting or modeling the PM formation in the chamber experiments discussed above, and that can serve as a basis for designing future PM studies in this chamber.
- Evaluate the potential utility of the environmental chamber for testing models for availability of emitted VOCs to react in the atmosphere to form O₃ and secondary PM. After discussion with members of the atmospheric availability subgroup of the RRWG it was decided to focus on conducting several experiments to assess the effects of humidity and seed aerosol on availability, decay rates and reactivities of ethylene and propylene glycol.

Results of reactivity studies are summarized in Table 2-5.

TABLE 2-5

Summary of Solvents Studied in the Environmental Chamber Experiments and the Conclusions from the Results

Compound or Mixture	Estimated MIR ^(a)		PM Impact or Approximate SOA Yields ^(b)	Discussion of Mechanism Evaluation Results ^(c)
	Previous	Revised		
Water Based Coatings VOCs				
Ethylene Glycol	3.36	3.63	Lower PM than base case	The glycolaldehyde product now represented explicitly. This mechanism still underpredicts glycol reactivity by 25-30% in experiments with aromatics in the base ROG surrogate, but there is no chemical justification for glycol mechanism adjustments

TABLE 2-5 (CONTINUED)

Summary of Solvents Studied in the Environmental Chamber Experiments and the Conclusions from the Results

Compound or Mixture	Estimated MIR ^(a)		PM Impact or Approximate SOA Yields ^(b)	Discussion of Mechanism Evaluation Results ^(c)
	Previous	Revised		
Propylene Glycol	2.74	No change	Lower PM than base case	This mechanism underpredicts glycol reactivity by ~20% in experiments with aromatics in the base ROG surrogate, but there is no chemical justification for glycol mechanism adjustments
Texanol® (Isobutyrate monoesters of 2,2,4-tri-methyl-1,3-pentanediol) ^(d)	0.88	No change	No net effect on PM formed evident	Experimental results for Texanol® and DGBE generally consistent with chamber data.
2-(2-butoxyethoxy)-ethanol (DGBE)	2.86	No change	14 - 26%	The OH radical rate constants found to be in good agreement with the estimated values used in the mechanism.
Benzyl Alcohol	None	4.89	~30%	Mechanism developed for this project and adjusted to fit the chamber data. Mechanism performance comparable to that for other aromatic compounds.
Hydrocarbon Solvents Studied for CARB Project^(e)				
VMP Naphtha, Primarily C ₇ -C ₉ mixed alkanes	1.41	1.35	0.1 - 0.7%	The experimental results for the primarily alkane, petroleum distillate-derived hydrocarbon solvents were generally consistent with the chamber data.
Dearomatized Mixed Alkanes, Primarily C ₁₀ -C ₁₂ (ASTM-1C)	0.91	0.96	~0.2%	
Reduced Aromatics Mineral Spirits, Primarily C ₁₀ -C ₁₂ mixed alkanes with 6% aromatics (ASTM-1B)	1.21	1.26	0.6 - 0.7%	
Regular mineral spirits, Primarily C ₁₀ -C ₁₂ mixed alkanes with 19% aromatics (ASTM-1A)	1.82	1.97	0.3 - 0.8%	The experimental results were generally consistent with the chamber data.

TABLE 2-5 (CONCLUDED)**Summary of Solvents Studied in the Environmental Chamber Experiments and the Conclusions from the Results**

Compound or Mixture	Estimated MIR ^(a)		PM Impact or Approximate SOA Yields ^(b)	Discussion of Mechanism Evaluation Results ^(c)
Synthetic isoparaffinic alkanes, primarily C ₁₀ -C ₁₂ branched alkanes (ASTM-3C1)	0.81	1.1 - 1.5 [f]	No net effect on PM formed evident	Data not well simulated by the model. Model probably underpredicts atmospheric ozone formation by 25-75%, depending on the cause of the discrepancy.
Aromatic 100 (Primarily C ₉ -C ₁₀ alkylbenzenes)	7.51	7.70	0.3 - 0.4%	Experimental results representing MIR conditions generally consistent with model predictions. But model underpredicted O ₃ inhibition in low NO _x conditions and has other problems.

[a] Maximum incremental reactivity in gm O₃ per gm VOC. Calculated as described by Carter (1994a,b). Values in "Previous" column are the MIR values incorporated in CARB regulations. The values for the compounds were from the most recent complete MIR tabulation given by Carter (2003). The values for the hydrocarbon solvents were derived using the CARB Bin assignments developed by Kwok et al (2000). No mechanism or MIR value previously existed for benzyl alcohol. Values in the "Revised" column are the best estimate MIRs based on the results of the current study. The changes in MIRs that may result when the mechanism is updated are unknown.

[b] For compounds with measurable positive PM impacts, the secondary organic aerosol (SOA) yields were derived from differences between PM volume levels in the base case and added test compound incremental reactivity experiments after 5 hours of irradiation. These approximate yields were estimated based on assuming same molecular weight for SOA as the starting material, assuming that the PM formed has the same density as water, and using approximate corrections for PM wall losses and approximate estimates of amounts of test compound or hydrocarbon solvent constituents reacted.

[c] Ozone prediction evaluation results are applicable to the SAPRC-99 mechanism (Carter, 2000a).

[d] Texanol was studied for the CARB project; see Carter and Malkina (2005) for details. Texanol is a registered trademark of Eastman Chemical Company.

[e] See Carter and Malkina (2005) for a discussion of the experimental and calculated data for the hydrocarbon solvent reactivities. The ASTM designations are based on the D 235-02 specification (ASTM, 2003).

[f] Range of MIRs for alternative mechanisms adjusted to fit the chamber data with this solvent. The available data are inadequate to distinguish between these mechanisms. See Carter and Malkina (2005).

The conclusion reached by the study indicates that there was no evidence that humidity and seed aerosol affects glycol availability at the relatively low aerosol loadings and humidities examined.

The following recommendations/concerns are summarized by the researcher pertaining to reactivity, availability, and PM assessment:

- Aromatics mechanisms need to be improved to further reduce uncertainties in reactivity assessments (e.g., glycols).
- Extrapolation of current mechanisms to higher aromatics, such as Aromatics 200 is still highly uncertain.

- Direct reactivity measurements are needed to reduce uncertainties for some VOCs, particularly mixtures of branched alkanes.
- A modified base case experiment that gives better correlations between chamber and atmospheric reactivity would be useful.
- No compelling need to change current bin assignments, except perhaps for those with light cycloalkanes and synthetic mixtures. But new procedure will be needed when the reactivity scale is updated.
- Well-characterized environmental chamber data are needed to develop predictive secondary PM models. Work is needed on background PM characterization in the reactivity chambers.

Using the Maximum Incremental Reactivity (MIR) scale as the basis for comparing reactivities of VOCs it is true that, on a per gram basis, some VOCs used in water-borne coatings are more reactive than some VOCs used in solvent-based coatings. For example, using the MIR scale as a basis, a typical VOC used in water-borne coatings, such as propylene glycol, is two to three times more reactive than typical mineral spirits. Less reactive solvents such as mineral spirits are not extensively used in some applications, such as automotive coatings. For example, automotive coatings tend to have solvents with higher reactivity such as xylenes and toluene. The reactivity of propylene glycol is approximately one-third the reactivity on a gram per gram basis of xylene and toluene. It is anticipated that manufacturers will incorporate the use of water and exempt solvents when formulating to meet the lower VOC limits (CARB, 2005).

Another factor to be considered in the reactivity based approach, and probably the most important, is an accurate speciation profile of waterborne and solvent-borne coatings. CARB, in its effort to get more detailed information about the speciation profiles, required speciation profiles of all coatings included in the 2005 CARB Survey (CARB, 2006) as was conducted in the 2001 survey. The analysis shows that existing VOC levels are already so low that the use of a reactivity-based approach at higher limits would not result in greater ozone reductions.

Furthermore, there are a number of uncertainties involved in using a reactivity-based approach. One source of uncertainty in the reactivity scales comes from the fact that ozone impacts of VOCs depend on the environment where the VOC is emitted. A second source of uncertainty is variability in the chemical composition of the VOC source being considered. Complex mixtures such as “mineral spirits” may be more difficult to characterize and may vary from manufacturer to manufacturer though in principal the composition of a given lot can be determined and reasonably assumed to be constant regardless of how the product is used. A third source of uncertainty comes from the complexity and uncertainties in the atmospheric processes by which emitted VOCs react to form ozone (Carter, 1995).

Although the science of VOC reactivity has matured, more comprehensive studies are still being conducted to resolve the uncertainties of reactivity data. The SCAQMD is participating in the industry-sponsored PACES process to address performance, availability, PM and reactivity issues. PACES released a Phase I Interim Report on August 29, 2008, but the report did not focus on reactivity. Reactivity will be examined during the Phase II process. CARB staff finalized another architectural coating survey to collect sales and ingredient data for calendar year 2004. This survey reflects the coatings being sold in California after all of the SCM VOC limits have taken effect. In spite of more recent information on reactivity, CARB did not include

a reactivity-based approach, but proposed a consideration of reactivity for certain categories. However, other AQMDs and Air Pollution Control Districts have concern about cost impacts and enforceability of this approach.

Until the results of this research and studies are completed and peer reviewed, it would not be prudent to implement a reactivity-based ozone reduction strategy based on incomplete science. In the absence of actual reactivity numbers for the compounds contained in “traditional” solvent formulations and compliant, low-VOC coatings, emissions must be calculated in the standard manner of total VOC per unit of coating applied manner.

CARB has implemented a limited reactivity-based rule and the EPA has also issued guidance to have states evaluate reactivity-based approaches. CARB is finalizing their new survey, which will include revised speciation data and will continue to evaluate the feasibility of reactivity-based approach as part of its next SCM. However, based on the 2001 survey, mass-based VOC control approach was deemed effective for most categories and shows a lower SWA-MIR value for low-VOC coatings.

The Proposed Modifications to the Final 2007 AQMP considers, as a long-term strategy, reducing the VOC ozone forming potential of consumer products through reducing the overall reactivity of VOC containing materials. The 2007 AQMP, however, concludes that further study is required to evaluate the reactivity of different compounds under various meteorological conditions to develop a systematic approach for regulatory programs.

CARB and SCAQMD will continue to assess the CE-CERT report and will work with industry in resolving remaining concerns with the results. SCAQMD is receptive to assessing reactivity for certain categories but will need to evaluate potential toxicity and PM_{2.5} formation. In addition, SCAQMD staff will continue to monitor all reactivity-related research at the RRWG, and plans to work closely with CARB staff on the survey and subsequent SCM. However, based on the latest research and analysis, as well as the recommendations of the researched to conduct additional analysis, staff supports the continuation of a mass-based ozone control strategy, with future consideration for a reactivity-based approach.

Concern has been raised that increased use of acetone could increase ozone formation since acetone evaporates more quickly than current solvents and thus more acetone would be used. First, while more acetone may be used due to its faster evaporation rate, according to the IRTA report titled “Assessment, Development, and Demonstration of Low-VOC Cleaning Systems for South Coast Air Quality Management District Rule 1171” (August 2003)⁹, several facilities tested reported they used about 10 percent more acetone than their current cleaning solvent. Second, acetone is classified as an exempt compound by the SCAQMD (Group I) and USEPA. Exempt compounds are excluded from the definition of VOC because they do not contribute appreciably to ozone formation.

⁹ <http://www.irta.us/SCAQMD%20No.%2001172%20Final%20Executive%20Summary%20-%20Tech%20Assessment.pdf>

Global Warming and Greenhouse Gas Emissions

Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of greenhouse gas (GHG) emissions in the atmosphere. The six major types of GHG emissions identified in the Kyoto Protocol are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHG emissions absorb longwave radiant energy emitted by the earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect."

The current scientific consensus is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of GHG emissions in the atmosphere due to human activities. Events and activities, such as the industrial revolution and the increased consumption of fossil fuels (e.g., combustion of gasoline, diesel, coal, et cetera), have heavily contributed to the increase in atmospheric levels of GHG emissions. As reported by the California Energy Commission (CEC), California contributes 1.4 percent of the global and 6.2 percent of the national GHG emissions (CEC, 2004). Further, approximately 80 percent of GHG emissions in California are from fossil fuel combustion (e.g., gasoline, diesel, coal, et cetera).

PR 1143 is not expected to generate additional GHG emissions as explained in the following paragraphs.

Of the elements in PR 1143 that were previously discussed in the "Construction Air Quality Impacts" section, there are no construction activities and thus no construction emissions associated with the proposed project. Therefore, there will be no change in GHG emissions associated with construction activities and combustion equipment.

Operation of the currently proposed project will also not be a source of GHG emissions because PR 1143 would establish a VOC material content of 25 g/L for consumer paint thinners and multi-purpose solvents and any reformulations that would occur to comply with this VOC limit would not require an increase in the quantity of combustion sources. For this reason, no change in GHG emissions is expected from implementing PR 1143.

Conclusion

In general, potential toxic air contaminant emissions as a result of implementing the proposed project are not expected to be significant for the following reasons. As discussed previously, there is no substantial evidence that shows the use of the solvents identified as potential replacements would result in an increase in significant adverse toxic air contaminant impacts. The potential replacement solvents are for the most part common chemicals that are already being used in a wide variety of both industrial and consumer applications. Their widespread use is assumed to be indicative of the ability to use these compounds in a safe manner. Further, current formulations of consumer paint thinners and multi-purpose solvents contain materials that are as toxic as or more toxic than formulations expected to be used to comply with PR 1143. Thus, the possible increased use of toxics in the reformulated products will generally be balanced by a concurrent decrease in the use of toxic materials in currently used conventional solvents,

and toxic air contaminant impacts would not be expected to change significantly from existing conditions.

Based on the information provided in this analysis, implementation of PR 1143 would not result in significant adverse air quality impacts. In fact, the proposed project is expected to result in an overall reduction in VOC emissions in the district, so PR 1143 is not expected to contribute to a violation of any air quality standard or contribute to an existing or projected air quality violation. Further, facility operators that use solvents that would be subject to the requirements in PR 1143 or solvent manufacturers located within the district may be required to also comply with all other relevant SCAQMD rules and regulations, which may include any or all of the following: source specific rules (Regulation XI); prohibitory rules (Regulation IV); toxic rules (Regulation XIV); and New Source Review (Regulation XIII). As such, PR 1143 would not diminish an existing air quality rule or future compliance requirement, nor conflict with or obstruct implementation of the applicable air quality plan. Further, PR 1143 has no provision that would cause a violation of any air quality standard or directly contribute to an existing or projected air quality violation. Since air quality impacts from implementing PR 1143 do not exceed any air quality significance thresholds in Table 2-1, pursuant to CEQA Guidelines §15130(a)(3), air quality impacts are not considered to be cumulatively considerable. Therefore, PR 1143 is not expected to result in a cumulatively considerable net increase of any criteria pollutant.

III.d) Affected facilities are not expected to expose sensitive receptors to substantial pollutant concentrations from the implementation of PR 1143 for the following reasons: 1) there are no operational increases of VOC emissions associated with PR 1143; 2) implementing PR 1143 is expected to reduce VOC emissions in the district by approximately 9.85 tons per day by 2014; 3) products are expected to be formulated with less toxic replacement solvents than what are currently used in consumer paint thinners and multi-purpose solvents; and 4) the use of future compliant materials must comply with all applicable SCAQMD Rules and Regulations. Therefore, significant adverse air quality impacts to sensitive receptors are not expected from implementing PR 1143.

III.e) Odor problems depend considerably on the individual circumstances. For example, individuals can differ quite markedly from the population average in their sensitivity to odor due to any variety of innate, chronic or acute physiological conditions. This includes olfactory adaptation or smell fatigue (i.e., continuing exposure to an odor usually results in a gradual diminution or even disappearance of the smell sensation).

Lower VOC-containing materials would generally be used at sites that already use odorous compounds. While some solvents (e.g., PCBTF) have a distinct aromatic odor, it is anticipated that lower VOC-containing materials would not have appreciably different odor impacts than currently used materials. In fact, some of the potential replacement solvents have fruity or mint-like scents e.g., acetone. Furthermore, local governments typically have ordinances that are intended to protect the public from adverse odors. SCAQMD Rule 402 – Nuisance, also protects the public from adverse odor impacts. For these reasons, PR 1143 is not anticipated to result in significant adverse odor impacts.

Based upon all of the aforementioned considerations, the SCAQMD has demonstrated that implementing the proposed project will not create significant adverse air quality impacts, either individually or cumulatively, and this topic will not be further analyzed in the Draft EA.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.

- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

IV.a), b), c), & d) The proposed project does not require the acquisition of land to comply with the provisions of PR 1143. Further, PR 1143 is not expected to require construction activities to install control equipment because the primary means of compliance is through product reformulation. For the same reason, PR 1143 would not require the construction of any new buildings or other structures. As a result, implementing PR 1143 is not expected to adversely affect in any way habitats that support riparian habitat, are federally protected wetlands, or are migratory corridors. Similarly, since implementing PR 1143 will not require construction of any structures, special status plants, animals, or natural communities are not expected to be adversely affected.

IV.e) & f) It is not envisioned that PR 1143 will conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because the proposed project does not require construction of any structures or new development in undeveloped areas. Additionally, PR 1143 will not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason.

The SCAQMD, as the Lead Agency for the proposed project, has found that, when considering the record as a whole, there is no evidence that PR 1143 will have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the SCAQMD has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained in §753.5 (d), Title 14 of the California Code of Regulations.

Based upon these considerations, significant adverse biological resources impacts are not anticipated and will not be further analyzed in this Draft EA. Since no significant adverse biological resources impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
V.	CULTURAL RESOURCES. Would the project:			
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Directly or indirectly destroy a unique paleontological resource or site or unique	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

geologic feature?

- d) Disturb any human remains, including those interred outside of formal cemeteries?

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

V.a), b), c), & d) Since no construction-related activities would be associated with the implementation of PR 1143, no impacts to historical or cultural resources are anticipated to occur as a result of implementing the proposed project. Further, PR 1143 is not expected to require physical changes to the environment, which may disturb paleontological or archaeological resources.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PR 1143 and will not be further assessed in this Draft EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI.a) & e) The primary effect of implementing PR 1143 is that, consumer paint thinners and multi-purpose solvents would be reformulated with potential replacement solvents to meet the proposed VOC material content limit of 25 g/L. Most users of consumer paint thinners and multi-purpose solvents will be able to utilize water-based, bio-based or exempt solvents such as acetone. The use of reformulated solvents is expected to create little or no additional demand for energy at affected facilities because activities and practice that involve the use consumer paint thinners and multi-purpose solvents are not expected to change as a result of using reformulated products and, as such, would require little or no additional energy to use. As a result, PR 1143 would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the need for new or substantially altered power or natural gas systems. Since PR 1143 would not require the installation of control equipment or the construction of any structures, the proposed project will not conflict with adopted energy conservation plans. Additionally, facility operators who use consumer paint thinners and multi-purpose solvents are expected to comply with any relevant existing energy conservation plans and standards to minimize operating costs. Accordingly these impact issues will not be further analyzed in the Draft EA.

VI.b), c), & d) In light of the aforementioned discussion and since PR 1143 would only affect future formulations of consumer paint thinners and multi-purpose solvents, PR 1143 would not create any significant adverse effects on peak and base period demands for electricity, natural gas, or other forms of energy, or adversely affect energy producers or energy distribution infrastructure.

Based on the preceding discussion, PR 1143 would not create any significant effects on peak and base period demands for electricity and other forms of energy and it is expected to comply with existing energy standards. Therefore, PR 1143 is not expected to generate significant adverse energy resources impacts and will not be discussed further in this Draft EA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Rupture of a known earthquake fault, as	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	<p>delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?</p> <ul style="list-style-type: none"> • Strong seismic ground shaking? • Seismic-related ground failure, including liquefaction? • Landslides? 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII.a) There are no provisions in PR 1143 that would require the construction of new or modified structures or the construction of air pollution control equipment that would call for the disruption or overcovering of soil, changes in topography or surface relief features, the erosion of beach sand, or a change in existing siltation rates. It is expected that consumers who use currently available paint thinners and multi-purpose solvents, would use compliant reformulated

products for the same purposes. For these reasons, PR 1143 will not expose persons or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. Thus, this topic will not be analyzed further in the Draft EA.

VII.b) PR 1143 will affect future formulations of consumer paint thinners and multi-purpose solvents. For this reason, PR 1143 is not expected to require the installation of control equipment or the construction of any structures. Since PR 1143 would not involve construction activities, no soil disruption from excavation, grading, or filling activities; changes in topography or surface relief features; erosion of beach sand; or changes in existing siltation rates are anticipated from the implementation of the proposed project.

VII.c) PR 1143 will affect future formulations of consumer paint thinners and multi-purpose solvents. However, PR 1143 is not expected to require the installation of control equipment or the construction of any structures. Since no construction activities would be required, no excavation, grading, or filling activities will be required to comply with the proposed project. For these reasons, subsidence is not anticipated to be a problem. Further, the proposed project would not require the drilling or removal of underground products (e.g., water, crude oil, et cetera) that could produce subsidence effects. Since no groundwork or earth moving activities would be required as part of implementing PR 1143, no new landslides effects or changes to unique geologic features would occur.

VII.d) & e) Because PR 1143 will affect future formulations of consumer paint thinners and multi-purpose solvents, it will not require the installation of control equipment or the construction of any structures that would involve earth-moving activities. Therefore, no persons or property will be exposed to new impacts from expansive soils or soils incapable of supporting water disposal. Further, PR 1143 does not involve installation of septic tanks or other alternative waste water disposal systems. The main effect of the proposed project will be a change in the formulations of materials already in use.

Based upon these considerations, significant geology and soils impacts are not expected from the implementation of PR 1143 and will not be further analyzed in this Draft EA. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

hazardous materials into the environment?

- | | | | | |
|----|---|--------------------------|--------------------------|-------------------------------------|
| c) | Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) | Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) | Significantly increased fire hazard in areas with flammable materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII.a), b), c), & i) PR 1143 has no provisions that would dictate the use of any specific material. Persons who currently use consumer paint thinner and multi-purpose solvents would continue to have the flexibility of choosing the product formulation best suited for their needs. It

is likely that persons who utilize these materials choose a paint thinner or multi-purpose solvent that does not pose a substantial safety hazard. To analyze a “worst-case” scenario, however, it is assumed that currently used conventional solvents would be reformulated with acetone because, as shown in Table 2-6, no other potential replacement solvent reformulations were identified that have a lower flash point, which is the primary basis for the flammability classification.

Table 2-6
Chemical Characteristics of Conventional and Potential Replacement Solvents

Conventional Solvents								
Chemical Compound	M.W. ^a	Boiling Point (@760 mmHg, °F)	Evaporation Rate (@25 °C)	Flash Point (°F)	LEL/UEL ^b (% by Vol.)	Auto-ignition Temperature (°C)	Vapor Pressure (mmHg @ 20 °C)	Flammability Classification ^c (NFPA) ^d
Denatured Alcohol (Ethanol)	46	78	2.3	56	3.3/19	435	44	3
Isopropyl Alcohol	60	180	2.3	53	2/12.7	399	33	3
Lacquer Thinner ^f	--	212.6	2.7	7.4	2/18.4	238	97.7	3
MEK	72	80	4.0	25	1.8/11.5	474	8.7	3
Mineral Spirits (Stoddard)	144	154-188	0.1	109-113	1.0 / 7	232	1.1	2
Paint Thinner ^g	--	299.6	1.4	93.6	1.0 / 7.3	229	2	3
Toluene	92	111	2.0	41	1.3 / 7	538	22	3
Turpentine	136	323.7	0.7	94.3	0.8/ n/a	253	5	3
VM&P Naphtha	87	266.9	1.2	53.1	1.2/6	288	20	3
Xylene	106	139	0.8	81	1.0/6.6	499	6	3
Potential Replacement Solvents								
Chemical Compound	M.W. ^a	Boiling Point (@760 mmHg, °F)	Evaporation Rate (@25 °C)	Flash Point (°F)	LEL/UEL ^b (% by Vol.)	Auto-ignition Temperature (°C)	Vapor Pressure (mmHg @ 20 °C)	Flammability Classification ^c (NFPA) ^d
Acetone	58	56	6.1	-4	2.6/12.8	538	180	3
Methyl Acetate	74	56	5.3	15	3/16	501	171	3
PCBTF	181	282	0.9	109	0.9/10.5	97	5.3	1

Source: OxyChem Specialty Business Group

^a Molecular Weight

^b Lower Explosive Limit / Upper Explosive Limit

^c Flammability Rating: 0 = Not Combustible; 1 = Combustible if heated; 2 = Caution: Combustible liquid flash point of 100° to 200°F; 3 = Warning: Flammable liquid flash point below 100°F; 4 = Danger: Flammable gas or extremely flammable liquid

^d NFPA = National Fire Protection Association

^e NIOSH Pocket Guide to Chemical Hazards

^f Lacquer thinner is manufactured from petroleum distillates and blended with other solvents, such as xylene, toluene, isopropyl alcohol, acetone, methanol, and light aliphatic solvent naphtha. Exact blending ratios vary widely.

^g Paint thinner is a petroleum distillate primarily composed of mineral spirits or xylene.

As a result of being delisted as a VOC by the USEPA, CARB, and many air districts including the SCAQMD, acetone usage has been steadily increasing irrespective of the currently proposed rule, including the use as a multi-purpose solvent sold not as a conventional solvent discussed in this document. In addition, conventional thinners and solvents are already being formulated with acetone although the specific usage quantity is unknown at this time. In any event, it is likely that for some solvent categories, acetone usage could increase as a result of the proposed project.

Acetone is currently used in a wide variety of applications. Chemistry classes at all levels from grade school to universities, as well as industrial laboratories, use acetone for wiping down counter tops and cleaning glassware. Additional uses for acetone include architectural and wood coating reformulations, varnish, lacquers, inks, adhesives, floor coatings, solvents for paint, and cosmetic products including nail polish and nail polish remover.

Labels and MSDSs accompanying acetone-based products caution the consumer user regarding acetone's flammability and advises the user to "keep the container away from heat, sparks, flame and all other sources of ignition. The vapors may cause flash fire or ignite explosively. Use only with ventilation." All of the large coating manufacturers currently offer pure acetone for sale in quart or gallon containers with similar warnings at chain home improvement retail stores. The Uniform Fire Code (UFC) treats solvents such as acetone, butyl acetate, and MEK as Class I Flammable Liquids. Further, the UFC considers all of these solvents to present the same relative degree of fire hazard.

An increase in acetone usage may increase the number of trucks or rail cars that transport acetone within the state, with a commensurate reduction in the transport of conventional solvents. However, the safety characteristics of individual trucks or rail cars that transport acetone will not be affected by PR 1143. The consequences (exposure effects) of an accidental release of acetone are directly proportional to the size of the individual transport trucks or rail cars and the release rate. Although the probability of an accidental release of acetone could increase, the severity of an incident involving acetone transport will not change as a result of the proposed project. This also holds true for the transport of the other potential replacement solvents identified in Table 2-6.

Any increase in accidental releases of compliant acetone-based paint thinners and multi-purpose solvents during transport would be expected to result in a concurrent reduction in the number of accidental releases of existing conventional solvents. Since conventional solvents have equivalent or worse hazardous characteristics, then the overall probability and consequence of accidental release during transport of thinners and multi-purpose solvents will remain relatively unchanged as a result of implementing PR 1143.

Similarly, the storage or use of acetone would not be expected to result in greater adverse hazard impacts than is currently the case for conventional solvents. As shown in Table 2-6, the flammability classifications by the NFPA are the same for acetone, denatured alcohol (ethanol), isopropyl alcohol, methyl acetate, MEK, toluene, and xylene. Recognizing that acetone has the lowest flash point, it still has a higher lower explosive limit than all the conventional solvents except denatured alcohol. This means that acetone vapors will not cause an explosion unless the vapor concentration exceeds 26,000 ppm. In contrast, toluene vapors can cause an explosion at 13,000 ppm, which poses a much greater risk of explosion. The concentration of mineral spirits

or xylene vapors, other conventional solvents, which could cause an explosion, is even lower at 10,000 ppm. Under operating guidelines of working with flammable material under well-ventilated areas, as prescribed by the fire department codes, it would be difficult to achieve concentrated streams of such vapors for unconventional solvents and would be extremely more difficult for acetone. Further, it is anticipated that a large percentage of future reformulated products will be formulated using water-based formulations, which generally are not flammable or have a lower NFPA classification compared to conventional solvents.

With respect to suppliers and sellers of affected thinners and multi-purpose solvents, the UFC and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. For some applications, local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials onsite. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations.

Local fire departments limit residential storage of flammable liquids to five gallons and recommends storage in a cool place. If the flammable coating container will be exposed to direct sunlight or heat, storage in cool water is recommended. Finally, all metal containers involving the transfer of five gallons or more should be grounded and bonded.

In addition to fire impacts, health hazards can also be generated due to exposure to chemicals present in reformulated coatings. The health hazard impacts of the replacement solvents are comparable to, or less than conventional solvents, so additional health impacts due to exposure are not expected due to reformulated coatings/solvents.

With respect to suppliers and sellers of affected thinners and multi-purpose solvents, all hazardous materials are expected to be used in compliance with established OSHA or Cal/OSHA regulations and procedures, including providing adequate ventilation, using recommended personal protective equipment and clothing, posting appropriate signs and warnings, and providing adequate worker health and safety training. When taken together, the above regulations provide comprehensive measures to reduce hazards of explosive or otherwise hazardous materials at distributors' locations and retail stores. Compliance with these and other federal, state and local regulations should ensure the potential for explosions or accidental releases of hazardous materials is not significant.

In past analysis of hazards due to the potential increased use to acetone in coatings for amendments to Rule 1113 – Architectural Coatings, local and county fire authorities were contacted to seek their input. Feedback received from these authorities indicated that, based on their extensive experience as a result of years of regulating the use and storage of flammable materials, the use of acetone will pose no greater risks than the use of existing solvents such as MEK, toluene, butyl acetate, etc.

It is anticipated that the current regulatory requirements regarding flammable and otherwise hazardous materials will not need to be amended as a result of the proposed project since, in part, acetone is already widely distributed, sold and used. Based on the preceding information, it is

also expected that implementing PR 1143 is not expected to increase or create any new hazardous emissions which would adversely affect existing or proposed schools. In fact, to the extent that schools and other consumers replace affected products formulated with conventional solvents with affected products formulated with acetone or water-based solvents, any existing hazardous emissions near schools would remain unchanged or would be reduced with regard to hazardous characteristics.

Two potential issues regarding hazards associated with acetone were recently raised at the November 5, 2008, public workshop on PR 1143. Responses to these issues are provided in the following paragraphs.

Concern was raised that increased use of acetone could increase ozone formation since acetone evaporates more quickly than current solvents and thus more acetone would be used. First, while more acetone may be used due to its faster evaporation rate, according to the IRTA report titled “Assessment, Development, and Demonstration of Low-VOC Cleaning Systems for South Coast Air Quality Management District Rule 1171” (August 2003)¹⁰, several facilities tested reported they used about 10 percent more acetone than their current cleaning solvent. Second, acetone is classified as an exempt compound by the SCAQMD (Group I) and USEPA. Exempt compounds are excluded from the definition of VOC because they do not contribute appreciably to ozone formation.

A commentator also noted that consumers could partake in unconventional activities involving acetone, such as mixing acetone with hydrogen peroxide. Acetone peroxide can also be created accidentally by mixing it with other solvents such as MEK. Once created, acetone peroxide is highly explosive and believed to have been used in the past for illegal purposes such as bomb devices. However, others argue that, while easy to make, acetone peroxide is too unstable to be considered an effective primary explosive. Regardless, both acetone and peroxide are currently widely available to consumers and their availability would not change with or without the proposed project. Therefore, implementing the proposed project does not result in a new potential hazard to the public or the environment or increase potential hazards from illegal activities because it is currently widely available to consumers at chain home improvement retail stores.

VIII.d) Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. Although some sites that have PR 1143-compliant materials in use may be on such a list; however, most affected sites are not expected to be on this list, and would not typically generate large quantities of hazardous waste. For any facilities affected by PR 1143 that are on the Government Code §65962.5 list, it is anticipated that they would continue to manage any and all hazardous materials and hazardous waste, in accordance with federal, state and local regulations. Complying with the requirements of PR 1143 is not expected to interfere with existing hazardous waste management programs. Accordingly, this impact issue is not further evaluated in this Draft EA

VIII.e), & f) In general, the purpose of PR 1143 is to achieve VOC emission reductions through reformulation of consumer paint thinners and multi-purpose solvents, which will

¹⁰ <http://www.irta.us/SCAQMD%20No.%2001172%20Final%20Executive%20Summary%20-%20Tech%20Assessment.pdf>

ultimately improve air quality and reduce adverse human health impact related to poor air quality. Since the use of PR 1143-compliant materials would be occurring at existing residential, industrial, or commercial facilities, implementation of PR 1143 is not expected to increase or create any new hazardous emissions which could adversely affect public/private airports located in close proximity to the affected sites. Accordingly, these impact issues are not further evaluated in this Draft EA.

VIII.g) PR 1143 has no provisions that dictate the use of any specific solvent for reformulation. For some applications, persons who utilize consumer paint thinners and multi-purpose solvents may have the flexibility of choosing the compliant solvent best suited for their operational needs. If available, it is likely that consumers would choose a compliant formulation that does not pose a substantial safety hazard. As shown in the discussion under item VIII.a), b) & c) above, it is expected that replacement solvents will generally be less toxic than currently used solvents.

With respect to suppliers and sellers of affected thinners and multi-purpose solvents, Health and Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

1. Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
2. Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
3. Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
4. Procedures to notify the necessary persons who can respond to an emergency within the facility;
5. Details of evacuation plans and procedures;
6. Descriptions of the emergency equipment available in the facility;
7. Identification of local emergency medical assistance; and
8. Training (initial and refresher) programs for employees in:
 - a. The safe handling of hazardous materials used by the business;
 - b. Methods of working with the local public emergency response agencies;
 - c. The use of emergency response resources under control of the handler; and
 - d. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification,

mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area. Based on the preceding information, it is not anticipated that PR 1143 would impair implementation of or physically interfere with an adopted or modified emergency response plan or emergency evacuation plan.

VIII.h) Since consumer paint thinners and multi-purpose solvents are already in use at existing residential, industrial, or commercial sites in urban areas where wildlands are typically not prevalent, risk of loss or injury associated with wildland fires is not expected as a result of implementing PR 1143.

Based upon these considerations, significant hazards and hazardous materials impacts are not expected from the implementation of PR 1143 and will not be further analyzed in this Draft EA. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY.			
Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	substantial additional sources of polluted runoff?			
f)	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j)	Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.

- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.
- The project increases demand for water by more than five million gallons per day.

Discussion

IX.a), f), k), l), & o) In general, the purpose of PR 1143 is to achieve VOC emission reductions through reformulation of consumer paint thinners and multi-purpose solvents. However, PR 1143 has no provisions that dictate the use of any specific solvent for reformulation. Persons who utilize consumer paint thinners and multi-purpose solvents may have the flexibility of choosing the compliant solvent best suited for their operational needs. For example, there are many aqueous (water-based) cleaning solvents available and being use; several have been certified by the SCAQMD's CAS certification program. Further, many manufacturers have developed bio-based products that already meet the 25 g/L VOC material content limit in PR 1143. As a result of rules and regulations on coatings and adhesives, many of these products, especially architectural coatings, do not require thinning, and are typically supplied as "ready to use." For some spray applications under certain climatic conditions, there are some waterborne coatings that can be thinned with water.

The reformulations that may occur to comply with PR 1143 will not affect those persons who currently use water- or acetone-based consumer paint thinners and multi-purpose solvents since water-based formulations of these materials are currently available. Further, in situations or operations where these water-based products are used, increased demand for water and increased generation of wastewater are not anticipated because these materials are already formulated with water in the manufacturing process.

Consumers who utilize consumer paint thinners and multi-purpose solvents that are formulated with conventional solvents may need to switch to other products formulated with a Group I exempt compounds such as acetone, acetone blends, aqueous and bio-based blends, methyl acetate or PCBTF because these solvents appear to be the most likely replacements for reformulations of consumer paint thinners and multi-purpose solvents. As previously mentioned in the "Hazards and Hazardous Materials" section, conventional consumer paint thinners and multi-purpose solvents will be reformulated with equivalent or less toxic materials than the currently available solvents.

In connection with potential water quality impacts associated with past SCAQMD rules or rule amendments that result in solvent-based products being reformulated with water- or exempt

solvent based products, the LACSD performed a study in response to the 1996 amendments to SCAQMD Rules 1171 - Solvent Cleaning Operations, and the 1997 amendments to SCAQMD Rule 1122 - Solvent Degreasers. The CEQA analysis for these previous rule amendments concluded that they would result in a widespread conversion to the use of reformulated aqueous materials for cleaning operations. Four categories of pollutants – metals, conventional pollutants, toxic volatile organics, and surfactants – were monitored in four sampling episodes from August 1998 to June 1999 and compared with baseline concentrations dating back to at least 1995 (LACSD, 1999).

Six metals – cadmium, chromium, copper, lead, nickel, and zinc – were also studied. These six metals' average concentrations in the wastewater stream showed no appreciable change from the baseline concentrations. Three conventional pollutants – TDS, chemical oxygen demand (COD), and TSS – were studied. Conventional pollutant concentrations also showed no appreciable change from the baseline concentrations. A number of toxic VOCs were studied including perchloroethylene and toluene. Perchloroethylene and toluene were monitored because they are commonly found in automotive repair cleaners and could contaminate the aqueous-based cleaners that are discharged to the sewer. The study found that perchloroethylene concentrations are increasing. The increase in the influent to the treatment plant is believed to be from consumer products used by home auto maintenance as well as a potential contribution from aqueous-based cleaners used by automotive repair facilities. Surfactants are used in personal care and cleaning products and are measured in wastewater as methylene blue active substances (MBAS). MBAS concentrations are increasing from the baseline concentrations (LACSD, 1999).

Although concentrations increased for perchloroethylene and MBAS, it is not believed that aqueous-based cleaners are the major source since the SCAQMD has continuing public outreach programs that educate the public to minimize contamination of aqueous based cleaners. Subsequent to the conversion to, and use of aqueous-based cleaners, the LACSD has not experienced water quality issues related to aqueous-based cleaners and has not seen increasing trends in any measured pollutants due to the use of aqueous-based cleaners (SCAQMD, 2003).

As a result, substantial changes in wastewater volume and composition are not expected from complying with the requirements in PR 1143. Further, PR 1143 is not expected to cause facility operators that utilize these products to violate any water quality standard or wastewater discharge requirements since wastewater volumes associated with PR 1143 will remain unchanged. PR 1143 is not expected to have significant adverse water demand and water quality impacts for the following reasons:

- The proposed project does not increase demand for water by more than 5,000,000 gallons per day.
- The proposed project does not require construction of new water conveyance infrastructure.
- The proposed project does not create a substantial increase in mass inflow of effluents to public wastewater treatment facilities.
- The proposed project does not result in a substantial degradation of surface water or groundwater quality.
- The proposed project does not result in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.

- The proposed project does not result in alterations to the course or flow of floodwaters.

IX.b) & n) Additional demand for water to manufacture consumer paint thinners and multi-purpose solvents is anticipated to increase to a certain degree, but based on current total daily usage of affected products, 3,323 gallons per day (Table 2-2), even if all currently used products are reformulated using water-based formulations, increased water demand would not exceed the SCAQMD's water demand significant threshold of five million gallons per day. Therefore, PR 1143 is not expected to adversely affect existing water demand, affect groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. In addition, implementation of PR 1143 will not increase demand for water from existing entitlements and resources, and will not require new or expanded entitlements. Therefore, no water demand impacts are expected as the result of implementing PR 1143.

IX.c), d), & e) Since the proposed project does not involve construction activities, no new increases to storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, these impact areas are not expected to be affected by PR 1143.

IX.g), h), i), & j) PR 1143 is not expected to generate the construction of new housing or contribute to the construction of new building structures because no facility modifications or changes are expected to occur at existing facilities or sites where consumer paint thinners and multi-purpose solvents are distributed, sold or used. Further, PR 1143 is not expected to require additional workers at affected facilities or sites where these products are used because PR 1143 primarily affects consumers. To the extent that affected products are used at industrial or commercial facilities, no additional workers would be required because PR 1143 would only change the formulation of thinners or multi-purpose solvents, not existing operations. Therefore, PR 1143 is not expected to generate construction of any new structures in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. Further, PR 1143 is not expected to expose persons or structures to significant new flooding risks, or make worse any existing flooding risks than currently exists because no new structure would be necessary to implement PR 1143. Finally, PR 1143 will not affect in any way any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities or other sites where consumer paint thinners and multi-purpose solvents are used.

IX.m) PR 1143 will not cause an increase in storm water discharge, since no construction activities are required or expected in order to comply with the 25 g/L VOC material content requirements for consumer paint thinners and multi-purpose solvents. Further, no new areas at existing affected facilities are expected to be paved, so the proposed project will not increase storm water runoff during operation. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities will be required as a result of implementing PR 1143. Accordingly, PR 1143 is not expected to generate significant adverse impacts relative to construction of new storm water drainage facilities.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the implementation of PR 1143 and will not be further analyzed in this Draft EA.

Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:			
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X.a) Since PR 1143 would affect reformulations of consumer paint thinners and multi-purpose solvents and would not involve the construction of any air pollution control equipment or structures, it will not result in physically dividing an established community.

X.b) There are no provisions in PR 1143 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by regulating VOC emissions from consumer paint thinners and multi-purpose solvents.

X.c) Since PR 1143 would affect reformulations of consumer paint thinners and multi-purpose solvents and would not involve construction of any air pollution control equipment or structures, it would not affect in any way habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities. Therefore, present or planned land uses in the region will not be significantly adversely affected as a result of implementing PR 1143.

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PR 1143 and will not be further analyzed in this Draft EA. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI.a) & b) There are no provisions in PR 1143 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since the proposed project would affect reformulations of currently available consumer paint thinners and multi-purpose solvents by requiring these products to meet at 25 g/L VOC material content, PR 1143 would have no effects on the use of important minerals, such as those described above. Therefore, no new demand on mineral resources is expected to occur and significant adverse mineral resources impacts from implementing PR 1143 are not anticipated.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of PR 1143 and will not be further analyzed in this Draft EA. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on noise will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XII.a) & c) Modifications or changes associated with reformulating consumer paint thinners and multi-purpose solvents as part of implementing PR 1143 will occur at the manufacturer level. However, changes in reformulation are not expected to cause physical modifications that

would require construction activities at the point of manufacture, distribution or use. For these reasons, PR 1143 is not expected to expose persons to the generation of excessive noise levels above current facility levels because it primarily involves using different formulations for consumer paint thinners and multi-purpose solvents. Further, the use of these materials at the consumer level is typically not a noise intensive activity. Therefore, the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of the existing facilities or other sites where these products are distributed, sold or used to above a level of significance in response to implementing PR 1143. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health at distribution and retail locations.

XII.b) PR 1143 is not anticipated to expose persons to or generate excessive groundborne vibration or groundborne noise levels since no construction activities are expected to occur and switching to reformulated products does not involve, in any way, the installation of control equipment that would generate vibrations and noise.

XII.d) No increase in periodic or temporary ambient noise levels in the vicinity of affected facilities above levels existing prior to PR 1143 is anticipated because the proposed project would not require construction-related activities nor would it change the existing activities currently performed by persons who utilize consumer paint thinners and multi-purpose solvents. See also the response to item XII.a).

XII.e) & f) Implementation of PR 1143 would not affect existing practices by persons who utilize consumer paint thinners and multi-purpose solvents except that the end users would use low-VOC reformulated products. Even if affected sites where these products are used are located near public/private airports, no new noise impacts would be expected since the use of consumer paint thinners and multi-purpose solvents is not typically a noise intensive activity. Thus, PR 1143 is not expected to expose persons residing or working in the vicinity of public or private airports to excessive noise levels.

Based upon these considerations, significant noise impacts are not expected from the implementation of PR 1143 and are not further evaluated in this Draft EA. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

housing elsewhere?

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

XIII.a) The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the district's population or population distribution as no additional workers are anticipated to be required to comply with PR 1143. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PR 1143. As such, PR 1143 will not result in changes in population densities or induce significant growth in population.

XIII.b) & c) The proposed project is expected to require changes in the formulations of consumer paint thinners and multi-purpose solvents in order to comply with a VOC material content limit of 25 g/L. As such, PR 1143 is not expected to substantially alter existing operations where these reformulated products may be used. Consequently, PR 1143 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of persons or housing elsewhere in the district.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of PR 1143 and are not further evaluated in this Draft EA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

XIV.a) Potential adverse impacts to fire departments could occur in two ways: 1) if there is an increase in accidental release of hazardous materials used in compliant consumer paint thinners and multi-purpose solvents, fire departments would have to respond more frequently to accidental release incidences; and, 2) if there is an increase in the amount of hazardous materials stored at affected facilities, fire departments may have to conduct additional inspections. In the “worst-case”, this analysis assumes that most consumer paint thinners and multi-purpose solvents would be reformulated with acetone to meet the 25 g/L VOC material content limit in PR 1143 since acetone has the lowest flash point and highest flammability rating of the possible replacement materials. It should be again acknowledged, however, that PR 1143 does not require the use of acetone or for that matter, any particular product. In addition, other exempt solvents, aqueous, and bio-based technology is commercially available. Consumers who utilize consumer paint thinners and multi-purpose solvents would determine which compliant material to use based on a number of factors including, but not limited to, safety considerations.

As previously discussed in the “Air Quality” section, Table 2-5 summarizes the various chemical characteristics of currently used solvents that are found in conventional consumer paint thinners

and multi-purpose solvents and the potential replacement solvents that may be used to meet the 25 g/L VOC material content limit. In addition, Table 2-5 identifies the flammability classifications by the NFPA for all of the substances listed and shows that these classifications are the same for acetone, denatured alcohol (ethanol), MEK, toluene, and xylene. Recognizing that, as a “worst-case,” acetone has the lowest flash point, it still has the highest lower explosive limit, which means that acetone vapors will not cause an explosion unless the vapor concentration exceeds 26,000 ppm. In contrast, toluene vapors can cause an explosion at 13,000 ppm. Further, the concentration of mineral spirits (Stoddard) or xylene vapors that could cause an explosion is even lower at 10,000 ppm.

While acknowledging the inherent safety issues associated with acetone, the capacity for its safe use is apparent based upon its widespread use. Chemistry classes at all levels from grade school to universities, as well as industrial laboratories, use acetone for wiping down counter tops and cleaning glassware. Additional uses for acetone include use as a solvent for paint, varnish, lacquers, inks, adhesives, floor coatings, and cosmetic products including nail polish and nail polish remover.

Communications with fire department personnel revealed that there would be equal concerns with the use of any conventional or replacement solvent which has a flash point below 65 degrees Fahrenheit. Even though there are several conventional solvents that have flash points below 65 degrees Fahrenheit, the use of consumer paint thinners and multi-purpose solvents formulated with these solvents are currently being safely used. Thus, there is no reason to believe that reformulating consumer paint thinners and multi-purpose solvents with acetone would substantially change the safety and handling practices currently in place.

Based on inquiries from the SCAQMD, Captain Michael R. Lee, Petroleum-Chemical Unit, County of Los Angeles Fire Department, submitted a letter to the SCAQMD stating that the UFC treats solvents such as acetone, MEK, and xylene as Class I Flammable Liquids. Further, the UFC considers all of these solvents to present the same relative degree of fire hazard. The UFC also sets the same requirements for the storage, use and handling of all three solvents. Captain Lee goes on to state, “In my opinion, acetone presents the highest degree of fire hazard of the three solvents considered, but not significantly more hazardous than the others.” He notes, however, that all three should be used with extreme caution, with proper safeguards in place. (Final EAs for PAR 1113, SCAQMD, 1996, 1998).

Based upon these considerations, the overall risk associated with the use of future reformulations of consumer paint thinners and multi-purpose solvents is not expected to appreciably change when PR 1143 is adopted. Further, implementation of PR 1143 will not generate significant adverse impacts to local fire departments requiring new or additional fire fighting resources. Any increase in the storage or accidental releases of compliant solvent formulations would be expected to result in a concurrent reduction in the storage and number of accidental releases of existing conventional solvent formulations. As a result, the need for inspections and the net number of accidental releases would be expected to remain relatively constant.

XIV.b) Local police departments are often the first responders to emergency situations such as fires to cordon off the area and provide crowd control. Since reformulating consumer paint thinners and multi-purpose solvents is not expected to increase the flammability relative to the flammability of conventionally used consumer paint thinners and multi-purpose solvents,

implementing PR 1143 is not expected to increase the number of fires associated with the reformulated products compared to the existing setting. As a result, no significant adverse impacts to local police departments are expected because no increases in fire emergencies are anticipated.

XIV.c) & d) The local labor pool (e.g., workforce) of people and consumers that use consumer paint thinners and multi-purpose solvents in their day-to-day activities is expected to remain the same since PR 1143 would not trigger substantial changes to current usage practices. Therefore, with no increase in local population anticipated (see discussion “XIII. Population and Housing”), construction of new or additional demands on existing schools and parks are not anticipated. Therefore, no significant adverse impacts are expected to local schools or parks.

XIV.e) PR 1143 will result in the use of reformulated consumer paint thinners and multi-purpose solvents. Besides the enforcement activities associated with implementing PR 1143, there is no other need for government services. Further, PR 1143 would not result in the need for new or physically altered government facilities, such as police or fire departments, in order to maintain acceptable service ratios, response times, or other performance objectives. There will be no increase in population and, therefore, no need for physically altered government facilities.

Based upon these considerations, significant public services impacts are not expected from the implementation of PR 1143 and are not further evaluated in this Draft EA. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

XV.a) & b) As discussed under “Land Use and Planning” above, there are no provisions in PR 1143 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements will be altered by the adoption of PR 1143 and the reformulation of consumer paint thinners and multi-purpose solvents. Further, PR 1143 would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it will not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of PR 1143 and are not further evaluated in this Draft EA. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on solid/hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

XVI.a) & b) Any liquid wastes generated by PR 1143 are discussed in the “Hydrology and Water Quality” discussion as it is prohibited to dispose of liquid wastes in landfills. The type of waste associated with reformulated consumer paint thinners and multi-purpose solvents depends on the manner in which these products are used. In handwipe operations, solvent-laden rags are the predominant waste product (liquid cleanup solvent wastes are addressed in the “Hydrology and Water Quality” section). These wastes are a byproduct of hand wipe cleaning and not because of air quality regulations (i.e., PR 1143). Additionally, PR 1143 will not be cause of waste generation, but simply requires the materials used for consumer paint thinning and multi-purpose solvent use to meet a specified VOC content. Thus, PR 1143 may result in the alteration of the composition of a waste stream because of the reformulated products, but would not be expected to result in an increased generation of waste.

It is important to note that PR 1143 does not change the current requirements specific to cleanup solvent storage and disposal. Since future reformulations of consumer paint thinners and multi-purpose solvents are expected to be formulated with solvents that are equally or less toxic than currently used solvents (see “Hazards and Hazardous Materials” section), implementing PR 1143 is not expected to generate significant new adverse hazardous waste impacts.

Therefore, there are no significant adverse solid and hazardous waste impacts associated with PR 1143. As a result, no net increase in the amount or character of solid or hazardous waste streams is expected to occur. Further, PR 1143 is not expected to increase the volume of solid or hazardous wastes from persons who utilize the reformulated consumer paint thinners and multi-purpose solvents, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based upon these considerations, PR 1143 is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing PR 1143 is not expected to interfere with any affected distributors’ or retailers’ ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?

Significance Criteria

Impacts on transportation/traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII.a) & b) The main effect of PR 1143 is that it establishes a VOC material content requirement for consumer paint thinners and multi-purpose solvents at 25 g/L. As a result of implementing PR 1143, new formulations of these products may be used in lieu of the conventional consumer paint thinners and multi-purpose solvents, which has no potential to adversely affect transportation. The volumes of new formulations are not expected to deviate substantially from the volumes of materials currently used. Thus, the current level of transportation demands related to transporting new formulations of materials is expected to remain equivalent. PR 1143 is not expected to affect existing uses and applications of consumer paint thinners and multi-purpose solvents that would change or cause additional worker trips to distribution or retail facilities or increase transportation demands or services. Therefore, since no substantial increase in operational-related trips are anticipated, implementing PR 1143 is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities or other sites that use these products.

XVII.c) Because PR 1143 will affect future formulations for consumer paint thinners and multi-purpose solvents used at residential, industrial, and commercial facilities, the height and appearance of the existing structures where these products will be used are not expected to be affected by complying with PR 1143. Therefore, implementation of PR 1143 is not expected to adversely affect air traffic patterns. Further, PR 1143 will not affect in any way air traffic in the region because, consumer paint thinners and multi-purpose solvents are typically shipped via ground transportation and not by air.

XVII.d) Compliance with the future VOC material content requirement for consumer paint thinners and multi-purpose solvents in PR 1143 does not require construction of structures or roadways. Further, implementing PR 1143 will not involve modifications to existing roadways. Consequently, implementing the proposed project will not create roadway hazards or incompatible roadway uses.

XVII.e) Compliance with future VOC content requirements for consumer paint thinners and multi-purpose solvents is not expected affect or require changes to emergency access at or in the vicinity of the affected facilities or other sites where these products are used since PR 1143 will not require construction or physical modifications of any kind. Therefore, PR 1143 is not expected to adversely affect emergency access.

XVII.f) Since PR 1143 will not involve construction of any structures or substantially alter operational practices, no new employees at distribution or retail facilities would be required to comply with the proposed project. As a result, no changes to the parking capacity at or in the vicinity of the affected distribution or retail facilities or other sites where consumer paint thinner and multi-purpose solvent use is expected. Therefore, the proposed project is not expected to adversely impact on- or off-site parking capacity.

XVII.g) Other than the reformulation of consumer paint thinners and multi-purpose solvents, no modifications at facilities or other sites where these products are used are expected that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera. Consequently, implementing PR 1143 will not create any conflicts with these modes of transportation.

Based upon these considerations, PR 1143 is not expected to generate significant adverse transportation/traffic impacts and, therefore, this topic will not be considered further. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.			
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)

- c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

XVIII.a) As discussed in the "Biological Resources" section, PR 1143 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the proposed project will only affect future formulations of consumer paint thinners and multi-purpose solvents, many of which are currently available. These products can be used at new or existing residential, industrial, or commercial sites, however, these sites have already been greatly disturbed and as such, would not typically support habitats or include important examples of the major periods of California history or prehistory. Additionally, special status plants, animals, or natural communities are not expected to be found within close proximity to the commercial or industrial locations where PR 1143-compliant products would be used.

XVIII.b) Based on the foregoing analyses, since PR 1143 will not result in project-specific significant adverse environmental impacts because PR 1143 is not expected to cause cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project. Related projects to PR 1143 include existing and other proposed rules and regulations, as well as 2007 AQMP control measures. Furthermore, the effects of PR 1143 will not be "cumulatively considerable" because there are no, or minor, incremental impacts and there will be no contribution to a significant cumulative impact caused by other projects that would exist in absence of the proposed project. For example, the environmental topics checked 'No Impact' (e.g., aesthetics, agriculture resources, biological resources, cultural resources, energy, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic) would not be expected to make any contribution to potential cumulative impacts whatsoever. For the environmental topic checked 'Less than Significant Impact' (e.g., air quality, hazards and hazardous materials), the analysis indicated that project impacts would not exceed any project-specific significance thresholds. This conclusion is based on the fact that the analyses for each of these environmental areas concluded that there would be no incremental effects of the proposed project would be minor and, therefore, not considered to be cumulatively considerable. Also, in the case of air quality impacts, the net effect of implementing the proposed project with other proposed rules and regulations, and control measures in the 2007 AQMP is an overall reduction in district-wide emissions contributing to the attainment of state and national ambient air quality standards. Therefore, the proposed project has no potential for generating significant adverse cumulative or cumulatively considerable impacts.

XVIII.c) Based on the foregoing analyses, PR 1143 is not expected to cause adverse effects on human beings. Significant air quality impacts are not expected from implementing PR 1143. In fact, the direct beneficial effect from the proposed project, however, is a reduction in VOC emissions of approximately 9.85 tons per day by 2014. No impacts to aesthetics, agriculture

resources, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic are expected as a result of implementing PR 1143. Therefore, these environmental issues will not require further analysis.

As discussed in items I through XVIII above, the proposed project has no potential to cause significant adverse environmental effects.

APPENDIX A

PROPOSED RULE 1143

**DRAFT PROPOSED RULE 1143 CONSUMER PAINT THINNERS &
MULTI-PURPOSE SOLVENTS**

(a) Purpose

The purpose of this rule is to reduce emissions of volatile organic compounds (VOCs) from the use, storage and disposal of consumer paint thinner and multi-purpose solvent materials commonly used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content.

(b) Applicability

This rule is applicable to any person who supplies, sells, offers for sale, or manufactures consumer paint thinners and multi-purpose solvent materials for sale in the District, as well as any person who uses or solicits the use of any consumer paint thinner and multi-purpose solvent within the District.

(c) Definitions

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

- (1) CONSUMER means any person who seeks, purchases, or acquires any consumer product for personal, family, household, or institutional use. Persons acquiring a consumer product for resale are not “consumers” for that product.
- (2) DISTRIBUTOR means any person to whom a consumer product is sold or supplied for the purposes of resale or distribution in commerce, except that manufacturers, retailers, and consumers are not distributors.
- (3) FORMULATION DATA is the actual product recipe which itemizes all the ingredients contained in a product including VOCs and the quantities thereof used by the manufacturer to create the product. Material Safety Data Sheets (MSDS) are not considered formulation data.
- (4) GRAMS OF VOC PER LITER OF MATERIAL is the weight of VOC per volume of material and can be calculated by the following equation:

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

Where: W_s = weight of volatile compounds in grams
 W_w = weight of water in grams

W_{es} = weight of exempt compounds in grams
 V_m = volume of the material in liters

- (5) INDUSTRIAL MAINTENANCE COATINGS are coatings, including primers, sealers, undercoaters, intermediate coatings and topcoats, formulated for or applied to substrates, including floors that are exposed to one or more of the following extreme environmental conditions:
- (A) immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
 - (B) acute or chronic exposure to corrosive, caustic or acidic agents, or similar chemicals, chemical fumes, chemical mixtures, or solutions;
 - (C) repeated exposure to temperatures in excess of 250 degrees Fahrenheit;
 - (D) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleaners, or scouring agents; or
 - (E) exterior exposure of metal structures.
- (6) LACQUER THINNERS are solvents that are manufactured for the purpose of thinning, diluting, dissolving, and for clean-up of lacquer coatings.
- (7) MULTI-PURPOSE SOLVENTS are solvents that do not display specific use instructions on the product container or packaging; products that do not specify an end-use function or application on the product container or packaging and solvents used in institutional facilities, except for laboratory reagents used in analytical, educational, research, scientific or other laboratories.

Notwithstanding the above, multi-purpose solvents do not include solvents used in cold cleaners, vapor degreasers, conveyORIZED degreasers or film cleaning machines, or solvents that are incorporated into, or used exclusively in the manufacture or construction of, the goods or commodities at the site of the establishment. "Multi-purpose Solvent" also does not include any product making any representation that the product may be used as, or is suitable for use as a consumer product which qualifies under another definition in section 94508; such products are not

Multi-purpose Solvents and are subject to the “Most Restrictive Limit” provision of section 94512.

- (8) PAINT THINNER are solvents that are manufactured for the purpose of reducing the viscosity of coating compositions or components and displays the term “Paint Thinner,” “Lacquer Thinner,” “Thinner,” or “Reducer” on the front panel of its packaging.
 - (9) PERSON means any individual, firm, association, organization, partnership, business trust, corporation, company, contractor, supplier, installer, user or owner, or any state or local governmental agency or public district or any other officer or employee thereof. PERSON also means the United States or its agencies to the extent authorized by Federal law.
 - (10) RETAIL OUTLET means any establishment at which consumer products are sold, supplied, or offered for sale directly to consumers.
 - (11) SOLICIT is to require for use or to specify, by written or oral contract.
 - (12) SOLVENTS include diluents and thinners and are defined as organic materials which are liquids at standard conditions and which are used as dissolvers, viscosity reducers or cleaning agents.
 - (13) SOLVENT CLEANING is the removal of adhesives, inks, coatings, and contaminants which include, but are not limited to, dirt, soil, and grease from parts, products, tools, machinery, equipment, and general work areas.
 - (14) SOLVENT FLUSHING is the use of a solvent to remove adhesives, inks, coatings, or contaminants from the internal surfaces and passages of the equipment by inducing a rapid flow of solvent through the equipment.
 - (15) VOC (VOLATILE ORGANIC COMPOUND) is as defined in Rule 102.
- (d) Requirements
- (1) Except as provided in paragraph (d)(2), no person shall supply, sell, offer for sale, manufacture, blend, or repackage any consumer paint thinner or multi-purpose solvent for use in the District which, at the time of sale or manufacture, that exceeds 25 grams per liter of material (0.21 pounds per gallon) VOC after any dilution and no person shall use or solicit the use of any consumer paint thinner or multi-purpose solvent within the District

that exceeds 25 grams per liter of material (0.21 pounds per gallon) VOC, effective January 1, 2010.

(2) Sell-Through Provision

Any solvent that is manufactured prior to the implementation date, may be sold, supplied, offered for sale, or used for up to six months after the specified effective date. The manufacturer shall maintain sales and distribution records, as applicable, for any solvent manufactured prior to the effective date. Such records shall clearly indicate the date of manufacture (or date code or batch code), the name of the solvent and the volume of the solvent sold or distributed to distinguish those solvents subject to the provisions of this paragraph. These records shall be made available to the Executive Officer upon request and shall be maintained for a period of at least five years.

- (3) Any solvent container in which the contents therein are applied directly to a surface from said container by pouring, siphoning, brushing, rolling, padding, rag application or other means, shall be closed when not in use. These solvent containers include, but shall not be limited to: drums, buckets, cans, pails, trays or other application containers.

(e) Administrative Requirements

- (1) Point of sale containers, for sale or distribution, of any consumer paint thinner or multi-purpose solvent subject to this rule shall display the maximum VOC content, as supplied, and the maximum VOC content after any dilution as recommended by the manufacturer.
- (2) Point of sale containers, for sale or distribution, of any consumer paint thinner and multi-purpose solvents subject to this rule shall display the date of manufacture of the contents or a code indicating the date of manufacture. The manufacturers of such consumer paint thinners and multi-purpose solvents shall file with the Executive Officer of the District an explanation of each code.
- (3) Any manufacturer and any of their distributors that supply consumer paint thinners and multi-purpose solvents with intent to sell in the District shall submit an application as specified by the Executive Officer to apply for a distributor or manufacturer identification (ID) number by the applicable date in subdivision (h). The application form shall be signed by the responsible party for the distributors and manufacturers certifying that all

information submitted (including electronic submittals) is true and correct. The Executive Officer shall be notified in writing within 30 days of any change in the responsible party of the manufacturer.

- (4) On or before May 1, 2010, and each subsequent January 1 thereafter, all distributors and manufacturers subject to this rule shall provide to the District a list of all their U.S. distributors to whom they supply products subject to this rule, including but not limited to private label coatings and toll manufactured coatings. The list shall be in a format determined by the Executive Officer and shall include the distributors name, address, contact person and phone number.
- (5) Effective April 1, 2010, each manufacturer and distributor shall, on or before April 1 of each subsequent calendar year, submit an annual quantity and emissions report to the Executive Officer.

(f) Prohibition of Sale

- (1) Effective January 1, 2010, no person shall offer for sale, sell or distribute directly to a person any paint thinner or multi-purpose-solvent for use in the District which, at the time of sale or manufacture, contains more than 25 grams of VOC per liter of material (0.21 pounds per gallon) after recommended dilution, or
- (2) The prohibition of sale shall not apply to any manufacturer of paint thinners or multi-purpose-solvents provided that:
 - (A) The product was sold to an independent distributor that was informed in writing by the manufacturer about the compliance status of the product.
 - (B) The product meets one of the exemptions as noted in subdivision (k).
 - (C) The product meets the sell-through provision in paragraph (d)(2).

(g) Recordkeeping

- (1) Maintain a copy of the application receipt from the District. The receipt shall be maintained for five (5) years and made available upon request by the Executive Officer.
- (2) Maintain records to verify data necessary to determine annual paint thinner and multi-purpose solvent sales subject to this rule and VOC

emissions in the District, and compliance with applicable rules and regulations. The records shall be maintained for five (5) years and made available upon request by the Executive Officer. Such records shall include but not be limited to:

- (A) Product formulation records (to include grams of VOC per liter of material):
 - (i) Laboratory reports [including percent weight of non-volatiles, water, and exempts (if applicable); density of the coating; and raw laboratory data] of test methods conducted as specified in paragraph (j)(1) or
 - (ii) Product formulation data, including physical properties analyses, as applicable, with a VOC calculation demonstration; and
 - (B) Production records including batch tickets with the date of manufacture, batch weight and volume; and
 - (C) Distribution records:
 - (i) Customer lists or store distribution lists or both (as applicable) and
 - (ii) Shipping manifests or bills of lading or both (as applicable); and
 - (D) Sales records consisting of point of sale receipts or invoices to local distributors or both, as applicable.
- (h) Compliance Dates
- (1) Consumer paint thinner and multi-purpose solvent manufacturers that begin to manufacture, supply, sell or offer for sale consumer paint thinner and multi-purpose solvent products subject to this rule and for use in the District after July 1, 2009 shall:
 - (A) Submit the application required in paragraph (e)(3) no later than thirty (30) calendar days prior to manufacturing, supplying, selling, or offering for sale, any consumer paint thinner and multi-purpose solvent product subject to this rule and for use in the District.
 - (2) Change in consumer paint thinner and multi-purpose solvent Manufacturer
 - (A) Within thirty (30) calendar days after a change of consumer paint thinner and multi-purpose solvent manufacturer, the new consumer

paint thinner and multi-purpose solvent manufacturer shall submit the application for a company ID number as required in paragraph (e)(3). That filing shall include the previous consumer paint thinner and multi-purpose solvent manufacturer's ID number.

(i) Confidentiality of Information

Subject to the provisions of the California Public Records Act (Govt. Code § 6250-6276.48) information submitted to the Executive Officer may be designated as confidential. District guidelines require a detailed and complete basis for such claim.

(j) Test Methods

For the purpose of this rule, the following test methods shall be used:

(1) Determination of VOC Content

The VOC content of materials subject to the provisions of this rule shall be determined by:

- (A) U.S. EPA Reference Test Method 24 (Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, Code of Federal Regulations Title 40, Part 60, Appendix A) with the exempt compound content determined by Method 303 (Determination of Exempt Compounds) in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual; or
- (B) Method 304 [Determination of Volatile Organic Compounds (VOC) in Various Materials] in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.
- (C) Exempt Perfluorocarbon Compounds

The following classes of compounds:

cyclic, branched, or linear, completely fluorinated alkanes

cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine

will be analyzed as exempt compounds for compliance with subdivision (d), only when manufacturers specify which individual compounds are used in the solvent formulations. In addition, the manufacturers must identify the U.S. EPA, CARB, and SCAQMD approved test methods, which can be used to quantify the amount of each exempt compound.

(2) Equivalent Test Methods

Other test methods determined to be equivalent upon approval in writing by the Executive Officer, CARB, and the U.S. EPA may also be used.

(3) Multiple Test Methods

When more than one test method or set of test methods are specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.

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

(k) Exemptions

(1) The provisions of this rule shall not apply to:

(A) Solvents sold in this District for shipment outside of this District or for shipment to other manufacturers for repackaging.

(B) Solvents used for the cleaning of application equipment for polyaspartic and polyurea coatings when used as industrial maintenance coatings.

(C) Laboratory reagents used in analytical, educational, research, scientific or other laboratories