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Air

SMALL ENTITY COMPLIANCE GUIDE

National Volatile Organic Compound Emission Standards for Architectural Coatings

Disclaimer

This guide was prepared pursuant to section 212 of the Small Business Regulatory Enforcement Act of 1996 (SBREFA), Public Law 104-121. This guide is intended solely to help regulated entities comply with the published national regulation, "National Volatile Organic Compound Emission Standards for Architectural Coatings" (*Federal Register*, Vol. 63, No. 176, pages 48848 - 48887, September 11, 1998, included here in Appendix A). Technical corrections were published on June 30, 1999 (Federal Register, Vol. 64, No. 125, pages 34997-35002, included here in Appendix A.)

This guide is not intended to replace the regulation and corrections and may not cover all parts of the regulation and corrections. Final authority rests solely with the regulation and corrections to the regulation. However, in any civil or administrative action against a small business, small government, or small non-profit organization for a violation of the architectural coatings regulation, the content of this guide may be considered as evidence of the reasonableness or appropriateness of proposed fines, penalties or damages.

Acknowledgments

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1.0 INTRODUCTION

After reading this introduction, you should know whether you need to use this guide, what this guide covers, and where to get the latest information on the regulation.

The U.S. Environmental Protection Agency (EPA) published the regulation entitled "National Volatile Organic Compound Emission Standards for Architectural Coatings" (*Federal Register*, Vol. 63, No. 176, pages 48848 - 48887) on September 11, 1998 under authority of Section 183(e) of the Clean Air Act. This guide explains how to tell if you are subject to the regulation and what to do if you are required to comply.

The EPA published this document as a compliance guide for small entities, as required by the Small Business Regulatory Enforcement Fairness Act of 1996. As you use the guide, you should know that the information in this guide was written and published in July 1999. The EPA published technical corrections to the architectural coatings final regulation. The technical corrections were published in the Federal Register on June 30, 1999 (64 FR 34997). This guide incorporates the regulation corrections, which are noted with an asterisk (*) and a footnote to explain the correction. You can determine whether EPA has published further corrections to the regulation or revised the information in this guide by checking the architectural coatings web site at:

http://www.epa.gov/ttn/uatw/183e/aim/aimpg.html.

The regulation applies to manufacturers and importers of architectural coatings—not to distributors or users. An architectural coating is a coating recommended for field application to stationary structures, their appurtenances, to portable buildings, to pavements or to curbs.

The Office of Federal Register (OFR) tracks whether any part of the Code of Federal Regulations (CFR) changed. To see if EPA has published changes to this

regulation (40 CFR part 59, subpart D), browse the OFR list of CFR sections affected at http://www.access.gpo/nara/lsa/browslsa.html. If you do not have access to the Internet, you can contact EPA's Clean Air Technology Center (CATC) at 919-541-0800.

1.1 Who should use this guide?

If you manufacture or import an architectural coating for sale or distribution in the United States, then you should use this guide to help you understand the requirements you are subject to under EPA's architectural coatings national regulation. As the manufacturer or importer of an architectural coating, you may have to meet certain requirements limiting the amount of pollutants (i.e., volatile organic compounds) in the products that you manufacture or import on or after September 13, 1999. If you apply traffic marking coatings, you are not subject to the regulation, but you should read section 3.13 of this guide to determine how you may be affected indirectly.

The Small Business Regulatory Enforcement Act (SBREFA) requires the EPA to prepare this compliance guide to help small businesses comply with the regulation. The regulation has the same requirements for all affected manufacturers and importers regardless of the size of the company. Therefore, this guide is also helpful for large businesses that must comply and to government staff who must implement and enforce the regulation.

1.2 What does the guide cover?

The purpose of this guide is to help small entities and others affected by the architectural coatings regulation comply with the regulation. This guide answers the following questions:

- Why is the architectural coatings regulation important?
- Am I subject to the architectural coatings regulation?
- What must I do to comply with the architectural coatings regulation?

1.3 How do I use the guide?

This guide is organized into 5 major sections and 12 appendices.

- **Section 1** introduces you to this guide and the architectural coatings regulation. You should be able to determine if you are affected by the architectural coatings regulation, and therefore, whether you need to use this guide.

- **Section 2** provides an overview of the regulatory requirements. This section explains the environmental and health issues that this regulation addresses. Section 2 also explains how EPA's national architectural coatings regulation relates to other architectural coating regulations at the State and local levels.

- **Section 3** gives step-by-step procedures for determining if you are subject to the regulation and how to demonstrate compliance.

- **Section 4** covers facility-specific questions regarding topics such as self-audits and existing air permits.

- **Section 5** discusses how the EPA will determine compliance and how the EPA will enforce the regulation.

The appendices of this guide contain tools and information that will be useful to you in complying with the architectural coatings regulation.

Regulation provisions are cited using brackets, i.e., [§ 59.400] so you can cross reference the regulation if necessary.

1.4 How do I obtain a complete copy of the regulation?

A complete copy of the regulation and technical corrections is included in Appendix A. The National Volatile Organic Compound Emission Standards for Architectural Coatings (40 CFR part 59, Subpart D) was published in the *Federal Register*, Vol. 63, No. 176, pages 48848 - 48887 on September 11, 1998. The technical corrections were published in the Federal Register, Vol. 64, No. 125, page 34997 on June 30, 1999. You may also obtain a copy of the regulation and technical corrections on the Internet at http://www.access.gpo.gov/su_docs/aces/aces140.html.

2.0 WHAT DOES THE REGULATION REQUIRE?

After reading section 2, you should understand the benefits of this regulation, the general requirements of the regulation, compliance dates, and how this national regulation relates to State and local architectural coatings regulations.

2.1 What environmental or human health issues does this regulation address?

The architectural coatings regulation is part of an integrated EPA approach to reduce emissions of volatile organic compounds, or "VOC," which have been associated with a variety of health and welfare impacts. Section 183(e) of the Clean Air Act directs EPA to list and schedule for regulation categories of consumer and commercial products because of their potential VOC emissions. VOC react with nitrogen oxides (NO_X) in the presence of sunlight to form ground-level ozone (a primary component of smog). To protect the public health and welfare, EPA has established national ambient air quality standards (NAAQS). The NAAQS are a measure of acceptable and unacceptable levels of certain pollutants across the country. More than half of the U.S. population lives or works in areas that exceed the national standards for ozone. In order to reduce national ground-level ozone levels, emissions of VOC and NO_X must be reduced.

Exposure to ground-level ozone is associated with agricultural crop loss and damage to forests and ecosystems. Human exposure to ozone primarily affects the lungs. Exposure to ozone is responsible for reduced exercise performance, increased susceptibility to respiratory infection, and pulmonary inflammation. When ozone levels are high, more asthmatics have asthma attacks that require a doctor’s attention or the use of additional asthma medication.

About one out of every three people in the United States is at a higher risk of experiencing ozone-related health effects. Four groups of people are particularly

sensitive to ozone: children; adults who are active outdoors; people with respiratory diseases such as asthma; and people with unusual susceptibility to ozone. These groups become sensitive to ozone when they are active outdoors because physical activity (such as jogging or outdoor work) causes people to breathe faster and more deeply. During activity, ozone penetrates deeper into the parts of the lungs that are more vulnerable to injury.

Ozone's most perceptible effects on human health are acute respiratory symptoms such as coughing and painful deep breathing. These acute health effects are induced by short-term exposures to ozone (observed at concentrations as low as 0.12 parts per million [ppm]), generally while individuals are engaged in moderate or heavy exertion. Acute health effects also are induced by prolonged exposures to ozone (observed at concentrations as low as 0.08 ppm), typically while individuals are engaged in moderate exertion. Moderate exertion levels are more frequently experienced by individuals than heavy exertion levels.

Exposure to ozone may make it uncomfortable to breathe, causing throat irritation or more rapid and shallow breathing. Ozone can also inflame and temporarily damage the lining of the lung. Scientists are concerned that repeated short-term damage from exposure to ozone may permanently change the lung. For example, there is concern that repeated ozone impacts on the developing lungs of children may lead to reduced lung function as adults.

Elevated concentrations of ozone are also associated with adverse welfare effects. Among the welfare impacts from exposure to ozone are damage to selected commercial timber species and economic losses for commercially valuable crops, such as soybeans and cotton. The typical concentration level of ozone found in rural areas is thought to depress crop yields and cause visible damage to other plant life such as premature aging and leaf loss.

2.2 Why is it important to regulate architectural coatings?

In many States, architectural coatings represent one of the largest identifiable sources of unregulated VOC emissions. Consequently, EPA and many States consider the regulation of architectural coatings to be an important component of the overall approach to reducing those emissions that contribute to excess levels of ozone.

Architectural coating regulations are already in place in a number of States, and other States may develop regulations in the future. For the companies that market architectural coatings in different States, trying to fulfill the differing requirements of State regulations has created administrative, technical, and marketing problems. Both large and small manufacturers have noted the additional burden associated with differences in State and local requirements. These industry representatives have noted that a national regulation would provide some degree of consistency, predictability, and administrative ease for the industry. For a list of States that have architectural coatings regulations in place, see Section 2.6.

The architectural coatings standards will reduce nationwide emissions of VOC by 103,000 megagrams per year (Mg/yr) (113,500 tons per year [tpy]). These reductions are from a 1990 "baseline" emissions estimate and represent a 20 percent reduction in VOC emissions from architectural coatings .

2.3 Summary of the architectural coatings regulation

The architectural coatings regulation sets VOC content limits for 61 categories of architectural coatings that are manufactured on or after September 13, 1999 (March 13, 2000 for products subject to the Federal Insecticide, Fungicide, and Rodenticide Act).

The regulation has...	for...	and you must comply by...
VOC content limits	61 categories of architectural coatings listed in Figure 1	choosing one or more of the following for coatings that do not meet the limits: • reformulate the coating to meet the limit • designate a limited volume as exempt using the tonnage exemption • pay an annual exceedance fee on the amount of VOC in excess of the limit
Labeling requirements	each coating sold or distributed in the United States	providing specific information on each container

Coating categories. Manufacturers and importers must classify each of their architectural coatings as belonging to at least one of the categories. The 61 categories of architectural coatings are listed in Figure 1. Manufacturers and importers should classify their coatings into categories based on the definitions in the regulation. If a coating meets the definition of more than one coating category, the manufacturer or importer must comply with the lowest applicable VOC content limit, unless one of the specified exceptions applies. Section 3.5 and Appendices B and C of this guide provide information to help you determine the category and VOC content limit for each of your coatings. [§§ 59.400, 59.401, 59.402]

VOC content limits. Manufacturers and importers may either reformulate their coatings to meet the VOC content limits in Figure 1 or choose to comply by using one of the compliance options described below. Manufacturers and importers who reformulate their coatings to meet the VOC content limits in Figure 1, or whose coatings already meet the limits, are only required to submit an initial report and meet the labeling requirements. However, manufacturers who choose to comply with the regulation by using the "tonnage exemption," paying the "exceedance fee," or using the adjusted

VOC content of recycled coatings must keep records and submit further reports in addition to submitting the initial report and meeting the labeling requirements. [§ 59.402]

Tonnage exemption. This compliance option allows each manufacturer and importer to sell or distribute limited quantities of architectural coatings that do not comply with the VOC content limits and for which no exceedance fee is paid. The tonnage exemption can be used for multiple products, but the total mass of VOC allowed under the tonnage exemption is a specified total limit each year. The total mass of VOC is calculated based on the volume of coatings manufactured or imported and the total amount of VOC contained in each of the coatings for which an exemption is claimed. [§ 59.404]

Exceedance fee. This compliance option is an economic incentive approach whereby manufacturers and importers may choose to comply with the regulation by paying an annual fee in lieu of meeting the VOC content limits for their coating products. The fee is $0.0028 per gram, or approximately $2,500 per ton, of excess VOC. The fee is calculated using the coating's amount of VOC in excess of the applicable VOC content limit and the volume of coating manufactured. The exceedance fee is paid annually. [§ 59.403]

Labeling. Each container of architectural coating sold or distributed in the United States must be clearly labeled with the following information: date of manufacture (or a date code), recommendations for thinning, and VOC content of the coating. If the coating is an industrial maintenance coating, then the container must also display one of the specified statements that indicates the coating is not intended for general consumer use. If the manufacturer or importer claims a credit for recycled coatings, then the container must indicate the post-consumer content in percent by volume. [§ 59.405]

Reporting and recordkeeping. All manufacturers and importers of affected coatings must submit an initial report to EPA listing the coating categories from Figure 1 that they manufacture or import. They must also report the locations of their facilities that produce, package, or repackage architectural coatings in the United States. The regulation does not require periodic records or reports, unless the manufacturer or

importer chooses to use the adjusted VOC content of recycled coatings, pays an exceedance fee, or uses the tonnage exemption. [§§ 59.407, 59.408]

Recycled coatings. Manufacturers or importers who recycle post-consumer coatings into their products may take credit for the recycled coating content and meet less stringent VOC content limits. [§ 59.406(a)(3)]

If you reformulate your coatings to meet the VOC content limits, or your coatings already meet the VOC content limits, then you are subject to fewer recordkeeping and reporting requirements than if you use the tonnage exemption or exceedance fee.

Limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation excluding the volume of any water, exempt compounds, or colorant added to tint bases, except for low solids stains and low solids wood preservatives.

FIGURE 1. VOLATILE ORGANIC COMPOUND CONTENT LIMITS FOR ARCHITECTURAL COATINGS

Coating category	Grams per liter	Pounds per gallon
Antenna coatings	530	4.4
Anti-fouling coatings	450	3.8*
Anti-graffiti coatings	600	5.0
Bituminous coatings and mastics	500	4.2
Bond breakers	600	5.0
Calcimine recoater	475	4.0
Chalkboard resurfacers	450	3.8
Concrete curing compounds	350	2.9
Concrete curing and sealing compounds	700	5.8
Concrete protective coatings	400	3.3
Concrete surface retarders	780	6.5
Conversion varnish	725	6.0
Dry fog coatings	400	3.3
Extreme high durability coatings	800	6.7
Faux finishing/glazing	700	5.8
Fire-retardant/resistive coatings:		
Clear	850	7.1
Opaque	450	3.8
Flat coatings:		
Exterior	250	2.1
Interior	250	2.1
Floor coatings	400	3.3
Flow coatings	650	5.4
Form release compounds	450	3.8
Graphic arts coatings (sign paints)	500	4.2
Heat reactive coatings	420	3.5
High temperature coatings	650	5.4
Impacted immersion coatings	780	6.5
Industrial maintenance coatings	450	3.8
Lacquers (including lacquer sanding sealers)	680	5.7
Magnesite cement coatings	600	5.0
Mastic texture coatings	300	2.5
Metallic pigmented coatings	500	4.2
Multi-colored coatings	580	4.8
Nonferrous ornamental metal lacquers and surface protectants	870	7.3
Nonflat coatings:		
Exterior	380	3.2
Interior	380	3.2
Nuclear coatings	450	3.8
Pretreatment wash primers	780	6.5

Coating category	Grams per liter	Pounds per gallon
Primers and undercoaters	350	2.9
Quick-dry coatings:		
Enamels	450	3.8
Primers, sealers, and undercoaters	450	3.8
Repair and maintenance thermoplastic coatings	650	5.4
Roof coatings	250	2.1
Rust preventative coatings	400	3.3
Sanding sealers (other than lacquer sanding sealers)	550	4.6
Sealers (including interior clear wood sealers)	400	3.3
Shellacs:		
Clear	730	6.1
Opaque	550	4.6
Stains:		
Clear and semitransparent	550	4.6
Opaque	350	2.9
Low solids	120[a]	1.0[a]
Stain controllers	720	6.0
Swimming pool coatings	600	5.0
Thermoplastic rubber coatings and mastics	550	4.6
Traffic marking coatings	150	1.3
Varnishes	450	3.8
Waterproofing sealers and treatments	600	5.0
Wood preservatives:		
Below ground wood preservatives	550	4.6
Clear and semitransparent	550	4.6
Opaque	350	2.9
Low solids	120[a]	1.0[a]
Zone marking coatings	450	3.8

[a]Units are grams of VOC per liter (pounds of VOC per gallon) of coating, including water and exempt compounds, thinned to the maximum thinning recommended by the manufacturer.
* Regulation correction [Table 1 to Subpart D], see page 7 for where to get the latest information. The correct VOC content limit for anti-fouling coatings is 450 grams per liter and 3.8 pounds per gallon, rather than 3.3 pounds per gallon.

English units are provided for information only. Regulation enforcement will be based on the metric levels. **

**Regulation correction [§ 59.402(a)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that the EPA will determine compliance with the VOC content limits in metric units, expressed in grams of VOC per liter of coating, rather than English units.

2.4 How do I demonstrate compliance?

The regulation does not require an initial compliance test. If your coatings already meet the VOC content limits or if you reformulate your coatings to meet the limits, then you must only submit the initial report and comply with the labeling requirements. Even though the regulation does not require you to keep records or submit periodic reports if your coatings meet the VOC content limits, you are responsible for ensuring that your coatings continue to meet the VOC content limits and you may choose any means to do so. You should consider keeping voluntary records that show compliance with the regulation. Such records would be helpful to you should an EPA inspector select one or more of your coatings for a compliance determination. Your records could document the actions you have taken to comply with the regulation and could clarify any uncertainties that might otherwise occur.

The EPA will determine compliance with the VOC content limits in metric units* using EPA Method 24 as the reference method (or an alternative method that would be approved on a case-by-case basis). The EPA may request at any time that you conduct a Method 24 test to demonstrate compliance. See Appendix E of this guide for a copy of Method 24, "Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings."

For coatings that do not meet the VOC content limits in Figure 1, your steps for demonstrating compliance depend on how you choose to comply. You may reformulate your coatings or use one of the compliance options of the regulation, specifically the tonnage exemption or exceedance fee. If you choose to use one of the compliance options or if you choose to use the adjusted VOC content for recycled coatings, you must maintain records and submit an annual report in addition to submitting the initial notification report and meeting labeling requirements.

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*Regulation correction [§ 59.402(a)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that the EPA will determine compliance with the VOC content limits in metric units, expressed in grams of VOC per liter of coating, rather than English units.

2.5 Compliance timetable

Each manufacturer and importer must submit the initial notification report and comply with the labeling requirements. Additional records and reports vary depending on whether the manufacturer or importer reformulates its coatings, uses the adjusted VOC content for recycled coatings, pays the fee, or uses the tonnage exemption. Refer to section 3 of this guide for how to use each compliance option and the compliance times. FIFRA coatings are coatings that must be registered under the Federal Insecticide, Fungicide, and Rodenticide Act.

Date	Requirement
September 13, 1999	Initial notification report [§ 59.408(b)], VOC content limits and labeling requirements for non-FIFRA coatings [§ 59.408(b)]
March 1, 2000	First annual reports for manufacturers and importers using the adjusted VOC content of recycled coatings [§ 59.408(c)] or paying the exceedance fee [§ 59.408(d)]
March 13, 2000	Initial notification report for FIFRA coatings [§ 59.408(b)],* VOC content limits and labeling requirements for FIFRA coatings [§ 59.400(b)]
March 1, 2001	First annual report for manufacturers and importers using the tonnage exemption [§ 59.408(e)]
March 1, 2001 and all subsequent years	Annual report for manufacturers and importers using adjusted VOC content of recycled coatings [§ 59.408(c)], paying the exceedance fee [§ 59.408(d)], or using the tonnage exemption [§ 59.408(e)]
No later than 30 days after first use	Report to explain any new date codes [§ 59.408(b)(4)]

*Regulation correction [§ 59.408(b)]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that the deadline for submitting the initial notification report for coatings registered under FIFRA is March 13, 2000, rather than September 13, 1999.

2.6 How does the national architectural coatings regulation relate to State and local requirements? [§ 59.410]

This compliance guide explains your compliance obligations with respect to EPA's national architectural coatings regulation as published on September 11, 1998. You should check State or local requirements that apply to you that are different from, or more stringent than, the national requirements. Architectural coating regulations are already in place in some States and other States may develop regulations in the future. Figure 2 lists States that have architectural coatings regulations in place.

Compliance with the national regulation does not necessarily constitute compliance with State regulations, nor does the national regulation supersede State regulations. For more information on the regulations that apply in your State, check with your State or local small business assistance program. The EPA's Small Business Assistance Program web site provides information on State and local small business programs: http://www.epa.gov/ttn/sbap.

The national architectural coatings regulation does not supersede any applicable State or local regulations. You should contact your State or local agency regarding any conflicts between the national regulation and your State or local architectural coatings regulations.

FIGURE 2. STATE AND LOCAL ARCHITECTURAL COATINGS REGULATIONS

State	Affected Area/Counties	Rule	Effective Date of Rule
Arizona	Maricopa County	Rule 335	July 13, 1998
California	18 out of the 35 air districts in CA have architectural coatings regulations	Rule 1113 (most stringent)	September 2, 1977
	Antelope Valley	1113	
	Bay Area	8-3	March 1978
	Butte County	240	July 1979
	Colusa County	2.26	1979
	El Dorado County	215	September 1994
	Feather River	3.15	June 1991
	Imperial County	424	November 1982
	Kern County	410.1	April 1972
	Mojave Desert	1113	February 1979
	Monterey Bay	426	May 1979
	Placer County	218	June 1979
	Sacramento Metropolitan	442	December 1978
	San Diego County	67.0	November 1997
	San Joaquin County	4601	April 1991
	Santa Barbara County	323	October 1971
	South Coast	1113	September 2, 1977
	Ventura County	74.2	June 1979
	Yolo-Solano County	2.14 - "Rule 66"	
Kentucky	Jefferson County	Reg. 1.16	January 17, 1996
Massachusetts	Statewide	310 CMR 7:25	October 1, 1995
Missouri	St. Louis Metropolitan area	10CSR 10-5.450	May 28, 1995
New Jersey	Statewide	NJAC 7:27-23	February 21, 1989
New York	Metropolitan area only	6NYCCR Part 205	September 15, 1988
Texas	Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston	115.421(11)	December 31, 1989
Washington	Vancouver	SWAPCA 493-200	May 25, 1996
Wisconsin	Non-attainment areas only (seasonal)	NR 422.17	April 30, 1996

3.0 STEP-BY-STEP PROCEDURES FOR COMPLIANCE WITH THE REGULATION

After reading section 3, you should know if you are subject to the regulation and what steps you must take to comply.

This section of the guide will help you determine if you are subject to the architectural coatings regulation and what you must do to comply. This section also tells you how you will be affected if you apply traffic marking coatings. Use this section of the guide to answer the following questions.

3.1 How do I tell if I am subject to the regulation?

3.2 What requirements am I subject to?

3.3 When do I need to comply?

3.4 What do I need to do to comply?
(Sections 3.5 through 3.12 explain the step-by-step procedures for complying.)

3.13 How will the regulation affect me if I apply traffic markings?

3.1 How do I determine if I am subject to the regulation?

To determine whether you are subject to the regulation, answer these questions by following the guidance in each section. Consider your answer for each coating that you manufacture or import.

3.1.1 Am I a manufacturer?

↓

3.1.2 Am I an importer?

↓

3.1.3 Is the coating that I manufacture or import an architectural coating?

↓

3.1.4 Is the architectural coating that I manufacture or import exempt from the regulation?

↓

3.1.5 How does the regulation apply to me if I am a toll manufacturer or private-label manufacturer?

3.1.1 Am I a manufacturer? [§ 59.401]

If you...	Then...
Produce, package, or repackage an architectural coating for sale or distribution in the United States	you are a manufacturer
Repackage an architectural coating by transferring it from one container to another and you do not alter the coating VOC content and you do not sell or distribute the coating to another party	you are NOT a manufacturer
Repackage an architectural coating as part of a paint exchange, and do not produce, package, or repackage any other architectural coatings for sale or distribution in the United States	you are NOT a manufacturer
Thin and apply architectural coatings	you are NOT a manufacturer

Paint exchange means a program in which consumers, excluding architectural coating manufacturers and importers, may drop off and pick up usable post-consumer architectural coatings to reduce hazardous waste.

Repackage means to transfer an architectural coating from one package to another.

The architectural coatings regulation does not regulate the application of coatings by consumers, painting contractors, or original equipment manufacturers.

3.1.2 Am I an importer? [§ 59.401]

If you...	Then...
Bring an architectural coating into the United States for sale or distribution within the United States	you are an importer

3.1.3 Is the coating that I manufacture or import an architectural coating? [§ 59.401]

If the coating that you manufacture or import is...	Then...
Recommended for field application to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs	the coating is an architectural coating
An adhesive	the coating is NOT an architectural coating
A coating recommended by the manufacturer or importer solely for shop applications or solely for application to non-stationary structures, such as airplanes, ships, boats, and railcars	the coating is NOT an architectural coating

The architectural coatings regulation does not apply to any coating that is intended solely for shop application.

Appurtenance means any accessory to a stationary structure, whether installed or detached at the proximate site of installation. Appurtenances include bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lamp posts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

Adhesive means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means. Adhesives are not considered to be architectural coatings under the architectural coatings regulation.

Shop application means that a coating is applied to a product or a component of a product in a factory, shop, or other structure as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).

Coating means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, inks, maskants, and temporary coatings. Protective, decorative, or functional materials that consist only of solvents, acids, bases, or any combination of these substances are not considered coatings under the architectural coatings regulation.

3.1.4 Is the architectural coating that I manufacture or import exempt from the regulation? [§ 59.400(c)]

If the architectural coating that you manufacture or import meets any of the following criteria, it is exempt from the regulation.

- **Manufactured before September 13, 1999.** Coatings manufactured prior to September 13, 1999 can continue to be sold until the stocks are depleted.
- **Export.** If a coating is manufactured for sale or distribution outside of the United States, it is exempt from the regulation. Coatings for export cannot be sold or distributed in the United States as architectural coatings.
- **Aerosol container**. If a coating is sold in a nonrefillable aerosol container, then it is exempt from the regulation.
- **Small volume.** If a coating is sold in a container that has a capacity of 1 liter or less, then it is exempt from the regulation.
- **Paint exchange.** If a coating is collected and redistributed in a paint exchange, then it is exempt from the regulation. A paint exchange is where architectural coating consumers drop off and pick up useable post-consumer architectural coatings to reduce hazardous waste. (A "post-consumer" coating is one that has been purchased or distributed to a consumer but not applied, and reenters the marketplace.)

Manufactured means that coating ingredients have been combined and put into containers that have been labeled and made available for sale or distribution.

If all of the architectural coatings that you manufacture and import meet any of the criteria for exemption, you are not subject to any of the regulation's requirements.

3.1.5 How does the regulation apply to me if I am a toll manufacturer or a private-label manufacturer?

If you are a toll manufacturer or private-label manufacturer of architectural coatings, then the regulation applies to you. You are responsible for submitting an initial report, meeting the VOC content, and meeting labeling requirements. Depending on the circumstances, more than one manufacturer can be subject to the regulation for a single product.

What is a toll manufacturer?

Typically, a toll manufacturer produces a coating in bulk for another manufacturer using a specified formula. For example, a coating manufacturer may hire a toll manufacturer to make a coating in order to meet a short-term increase in demand. The hiring manufacturer receives the coating in bulk “totes” and then packages and labels the coating for sale. Two examples of tolling relationships are illustrated as cases 1 and 2 in Figure 3.

What is a private-label manufacturer?

Typically, a private-label manufacturer produces a coating for a retailer. For example, the retailer may provide such specifications as the price, quality, and performance requirements of the coating. The manufacturer delivers a coating already packaged, ready to be put on the shelf, and labeled to meet both the retailer’s specifications and all necessary legal requirements. A private-label relationship is illustrated as case 3 in Figure 3.

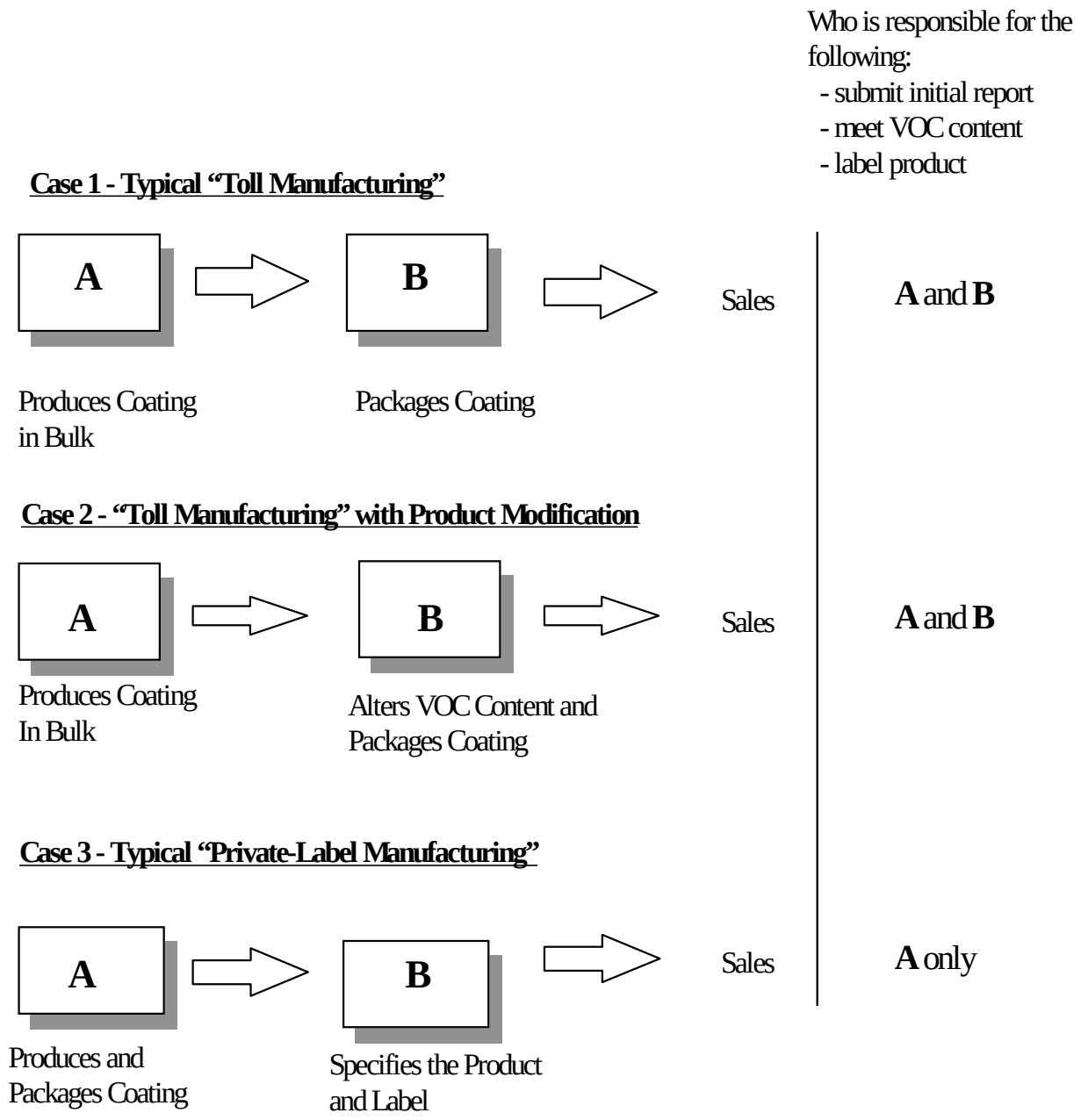


Figure 3. Who is responsible when more than one company is involved in manufacturing a coating?

Who is subject to the regulation?

The regulation defines the regulated entity as the “manufacturer or importer of an architectural coating.” A manufacturer is any person who “produces, packages, or repackages architectural coatings for sale or distribution in the United States.” Therefore, in the case of toll manufacturing, the toll manufacturer and the manufacturer that packages the coating are both subject to the regulation. A private-label manufacturer is subject to the regulation, but not the person who hires the manufacturer.

The three cases summarized in Figure 3 illustrate who is responsible when more than one company is involved in manufacturing a coating. While within these three cases there may be different business relationships with regard to who owns the formula, whose name is on the label, or who is responsible for compliance with other government regulations, these are not factors in determining applicability for the architectural coatings regulation.

What happens when two companies are subject to the regulation for a single product?

Each manufacturer must comply with all requirements of the regulation, including labeling and all reporting requirements. Compliance responsibility will be based on the three principles listed below.

1. Each coating must be in compliance when it leaves the custody of a manufacturer, either by meeting the VOC limit, paying fee in the future, or using the tonnage exemption. If the manufacturer uses the tonnage exemption or exceedance fee option, it is responsible for the recordkeeping and reporting requirements associated with these options.

> Implication: A manufacturer that produces a coating under contract must know what coating it is producing and ensure that the coating complies.

2. Each manufacturer is accountable for its own actions, but no manufacturer is accountable for the actions of another manufacturer.

> Implication: A manufacturer that produces a coating under contract will not be held responsible if its client mislabels or alters the VOC content of the coating.

3. Once a coating is in compliance, it remains in compliance as it passes to the custody of another manufacturer. The coating stays in compliance unless a second party (i.e., manufacturer or retailer) does anything to make it non-compliant, in which case the second party is responsible.

> Implication: A packager or repackager can rely on the certification of a toll manufacturer that the coating meets the VOC content indicated on the label or is in compliance through the tonnage exemption or exceedance fee.

What are the compliance responsibilities of the toll manufacturer and the hiring manufacturer?

Both manufacturers must comply with all aspects of the regulation, (VOC content limits, labeling, and reporting). Each manufacturer is accountable only for its own actions.

Example 1: The toll manufacturer that produces a coating in bulk is responsible for meeting the VOC content limit or complying with the regulation through use of the tonnage exemption or payment of the exceedance fee. The toll manufacturer must label the product (i.e., the bulk totes) according to the regulation and submit to EPA an initial report and any other reports that are required. When the coating passes to another manufacturer (who packages the coating), it would be wise for this second manufacturer to obtain a certification of compliance from the toll manufacturer that states the method by which the coating complies with the regulation. The second manufacturer can rely on the certification of the toll manufacturer that the coating as received is in compliance and that the VOC content is in accordance with the label on the tote. The second manufacturer would be held accountable only for a subsequent action that would change the compliance status (e.g., addition of solvent, improper labeling, or representations of intended coating use that would change the coating category and the applicable VOC limit).

Can a toll manufacturer claim more than one tonnage exemption?

No. Each manufacturer may claim only one tonnage exemption. A manufacturer cannot pass its exemption to another manufacturer. When a manufacturer conveys a product covered by the tonnage exemption to another manufacturer, the product itself remains in exempt status.

Example 2: A toll manufacturer can exempt coatings up to the VOC tonnage limit in the regulation and no more. For example, the regulation provides for a VOC tonnage exemption of 23 megagrams for the period from September 13, 1999 through December 31, 2000. The toll manufacturer can exempt coatings containing up to 23 megagrams of VOC that it sells under its name or that it produces for another manufacturer to sell. Once it reaches the 23 megagram limit, the toll manufacturer cannot claim additional tonnage exemptions, even for coatings produced for another manufacturer who has not claimed any exemption.

Example 3: A toll manufacturer exempts up to the 23 megagram limit for coatings produced under contract to Manufacturer B. Manufacturer B can package and sell these toll-manufactured coatings and rely on the certification of the toll manufacturer that the coatings are in compliance by way of tonnage exemption. In addition, Manufacturer B can take an exemption up to the 23 megagram limit on other coatings that it produces.

Who pays an exceedance fee in a tolling relationship?

The manufacturer who produces the coating must pay the exceedance fee.

Example 4: A toll manufacturer is under contract to Manufacturer B to produce 10,000 liters of a coating that exceeds the VOC content limit. The toll manufacturer would pay the fee and submit the annual fee report to EPA for the 10,000 liters it produces. Upon passing the coating to Manufacturer B, the toll manufacturer would certify the VOC content of the coating along with a statement that the fee will be paid to EPA on the excess VOC. Manufacturer B can rely on this certification that the coating is in compliance. Manufacturer B does not have to pay a fee to EPA for this product.

Example 5: In the previous example, Manufacturer B also produces 40,000 liters of the same coating in excess of the VOC content limits of the regulation. Manufacturer B pays the exceedance fee only on the 40,000 liters that it produces. Manufacturer B would submit an annual report to EPA for the 40,000 liters. To protect its interests, Manufacturer B should (although not required by the regulation) maintain purchase records from the toll manufacturer along with the toll manufacturer's fee certifications as proof that the other 10,000 liters (from the toll manufacturer) it sells is in compliance.

Example 6: A toll manufacturer is under contract with Manufacturer B to produce a coating that is 50 grams VOC per liter in excess of the VOC content limit. The toll manufacturer would pay the fee based on the volume produced and the excess 50 grams VOC per liter, and would submit an annual fee report to EPA. Manufacturer B then blends the coating with other compounds to modify the product and in doing so, adds 10 grams VOC per liter to the coating. Manufacturer B would pay a fee and report only on the additional 10 grams VOC per liter that it added (and the total volume produced).

3.2 What requirements must I meet?

You are required to submit an initial report identifying yourself as someone subject to the regulation and you must meet certain container labeling requirements that vary for different types of coatings. Each architectural coating that you manufacture or import must comply by one of the three options below (unless a coating is exempt as discussed in section 3.1.4). Additional requirements vary depending on which compliance option you choose.

If you choose this compliance option...	**your primary requirements are to...**	**and these are additional requirements associated with the compliance option**
VOC content limits	Submit the initial notification report. Meet the labeling requirements. Meet the VOC content limits in the regulation by reformulating if your coatings do not already meet the limits.	None
Tonnage exemption	Submit the initial notification report. Meet the labeling requirements. Designate a limited volume of coatings as exempt. See Section 3.8 for a discussion on how to comply with the tonnage exemption option.	Submit an annual report. Retain records of exemption calculations for 3 years.
Exceedance fee	Submit the initial notification report. Meet the labeling requirements. Pay an annual exceedance fee on the excess VOC content. See Section 3.9 for a discussion on how to comply with the exceedance fee option.	Submit an annual report. Retain records of fee calculations for 3 years.

If you reformulate your coatings to meet the VOC content limits or your coatings already meet the limits, then you must submit the initial report and meet the container labeling requirements. You are not required to keep further records or submit reports unless you change your date code. However, you should consider keeping voluntary records that show compliance with the regulation.

You may use more than one compliance option. For example, if you manufacture five coatings that do not currently meet the VOC content limits, you could comply as follows:

- reformulate three coatings to comply with the VOC content limits,
- use the tonnage exemption for one coating, and
- pay an exceedance fee for one coating.

Or if you manufacture only one coating and it does not meet the VOC content limit you could comply by using two of the three compliance options, as follows:

- use the tonnage exemption (up to the maximum volume of coating that the regulation allows), and
- pay an exceedance fee for the remaining production volume

Section 3.10 illustrates an example of how to use multiple compliance options.

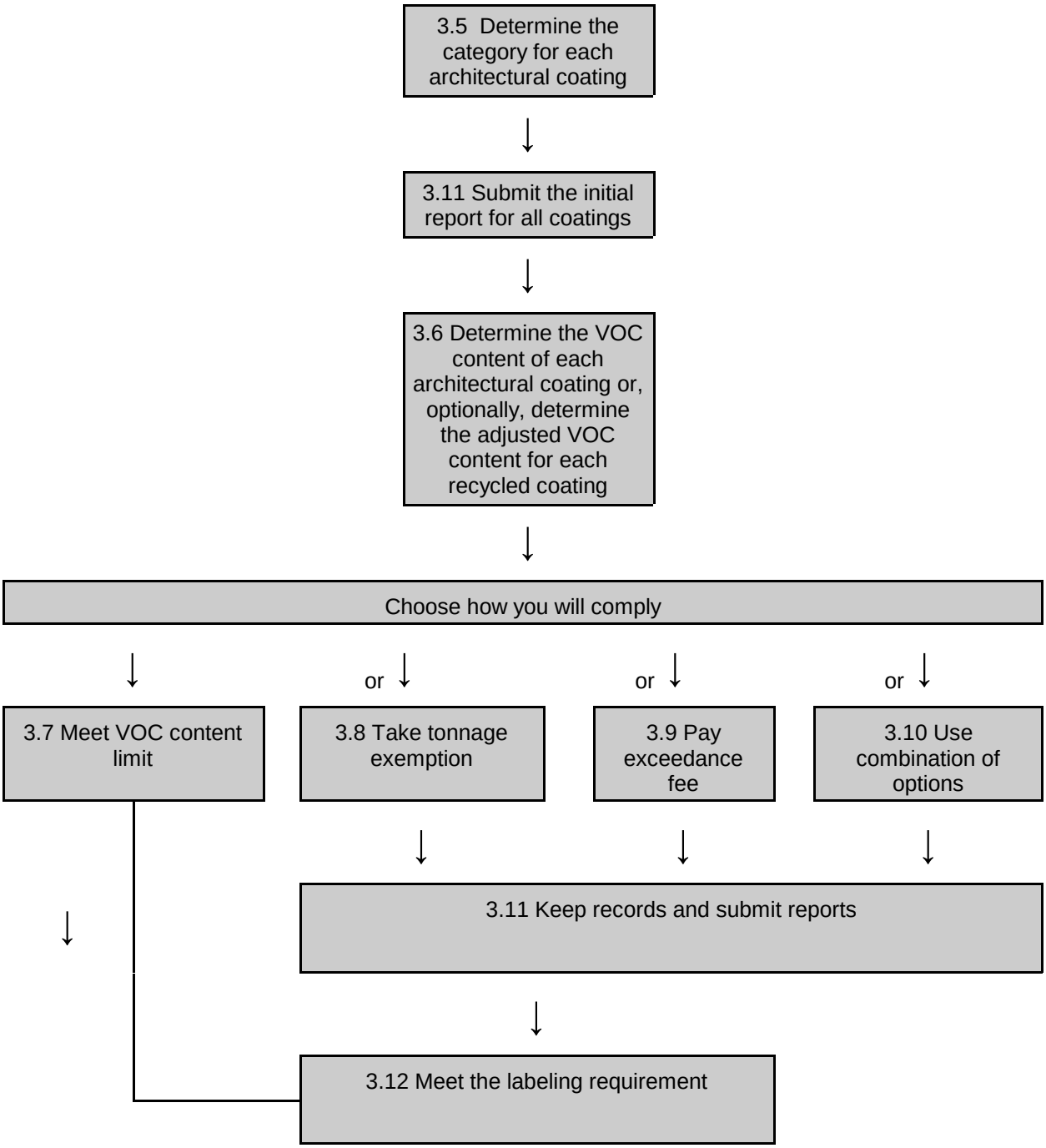
3.3 When do I need to comply?

You must comply with this requirement...	On or before this date...
Initial report [§ 59.408(b)], VOC content, and labeling requirements for non-FIFRA coatings [§ 59.400(b)]	September 13, 1999
Initial report [§ 59.408(b)] and VOC content and labeling requirements for coatings registered under FIFRA [§ 59.400(b)]	March 13, 2000*
Initial report if you first manufacture or import architectural coatings after September 13, 1999 (March 13, 2000 for FIFRA coatings) [§ 59.408(b)]	Within 180 days after the date that the first architectural coating is manufactured or imported
Recycled coatings (if option is used)	
- first annual report [§ 59.408(c)]	March 1, 2000 (for September 13, 1999 through December 31, 1999)
- subsequent annual report [§ 59.408(c)]	March 1 of each year following the calendar year you choose the compliance option
Exceedance fee (if option is used)	
- first annual report [§ 59.408(d)]	March 1, 2000 (for September 13, 1999 through December 31, 1999)
- subsequent annual report [§ 59.408(d)]	March 1 of each year following the calendar year you choose the compliance option
Tonnage exemption (if option is used)	
- first annual report [§ 59.408(e)]	March 1, 2001 (for September 13, 1999 through December 31, 2000)
- subsequent annual report [§ 59.408(e)]	March 1 of each year following the calendar year you choose the compliance option
Report to explain new date code [§ 59.408(b)(4)]	No later than 30 days after first use

*Regulation correction [§ 59.408(b)]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that the deadline for submitting the initial notification report for coatings registered under FIFRA is March 13, 2000, rather than September 13, 1999.

3.4 What do I need to do to comply?

As the manufacturer or importer of an architectural coating, you must follow the appropriate steps listed below for each architectural coating that you manufacture or import. Sections 3.5 through 3.12 explain the step-by-step procedures for complying.



3.5 How do I determine the category for my coating? [§§ 59.401, 59.402]

You determine the applicable category and the corresponding VOC content limit based on both the technical criteria in the regulation's definitions and any representations that you make about the uses of a coating. Appendix B of this guide contains fact sheets that will help you determine which category definition and VOC content limit applies.

1. Compare your coating to the definitions of all categories in the regulation.

2. Determine all of the coating definitions that apply. There are two ways that a coating is considered to be part of a category in Figure 1 (page 17).

- the coating meets the technical criteria of the definition

- you make any representation that indicates that your coating meets the definition of a coating category in Figure 1. "Any representation" means a representation made anywhere on the container; on any label or sticker affixed to the container; or in any sales, advertising, or technical literature supplied by you or anyone acting on your behalf.

3. If your coating meets the definition of more than one category, then you must comply with the most restrictive VOC content limit, with some exceptions as illustrated in Appendix C.

4. The flat and nonflat coating categories serve as default categories for coatings that do not meet any other definitions (see Appendix B). For such a coating, you must determine the gloss level of the coating to find out whether it is a flat or nonflat coating and comply with the requirements for that category.

Appendix C summarizes the exceptions to meeting the most restrictive VOC content limit. These exceptions are also summarized in Appendix B with each category definition for which one of the specified exceptions apply.

3.6 How do I determine the VOC content of my coating? [§ 59.406]

To determine the VOC content of a coating, you must first determine the composition of the coating, then use the appropriate equation in the regulation. Follow these two steps.

Step 1 - Choose a means of determining the coating composition. You may use any reasonable means to determine the composition of a coating. The composition includes the weight of volatiles, water, and "exempt" compounds; and the volume of coating, water, and exempt compounds [§ 59.406(b)]. Exempt compounds are listed in the definition of VOC in 40 CFR 51.100. The list of exempt compounds, as of July 1998, is contained in Appendix D of this guide. This list is periodically updated. You should check the list of CFR sections affected to see if 40 CFR part 51 has been amended: http://www.access.gpo/nara/lsa/browslsa.html.

You may use any of the following means to determine the coating composition:

- use batch processing and quality assurance records,
- use EPA Method 24 to test the coating, or an alternative test method that is approved by EPA on a case-by-case basis, according to § 59.406(c) of the regulation,
- use formulation data, or
- use any other reasonable means to ensure that the coating complies with the VOC content limits.

The EPA will use EPA Method 24 to determine compliance with the VOC content limits, expressed in grams of VOC per liter of coating.

Although you may use any means to determine the VOC content of a coating, EPA Method 24, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings" is the reference method EPA will use for determining compliance. Therefore, if you use something other than Method 24, be sure that its results are consistent with Method 24 results. **If there is an inconsistency between the results of your approach and a Method 24 test (or an alternative test method approved by EPA for you), the Method 24 or approved alternative test governs for compliance determinations.** See Appendix E for a copy of Method 24.

In the case of methacrylate multicomponent coatings used as traffic marking coatings, the reference method is the modification of Method 24 that is published as Appendix A to the regulation (see Appendix A of this guide for the complete text).

Determine the composition of the coating as mixed according to the maximum thinning recommendation.

Step 2 - Use the appropriate equation. Select the appropriate equation based on the type of coating and then calculate the VOC content of your coating using the information from Step 1. There are three different equations from which to choose and an example of each type follows.

Example 1: Any architectural coating, except low solids stains and low solids wood preservatives

Example 2: Low solids stains and low solids wood preservatives

Example 3: Recycled coatings.

Before beginning to calculate the VOC content of your coating, you should follow the guidance in Appendix F to determine whether to include water, exempt compounds, and colorant added to tint bases (this occurs at the retail store or site of coating application).

When determining the VOC content of coatings (except low solids stains and wood preservatives), exclude the weight and volume of water and exempt compounds and the weight and volume of colorants added to tint bases.

However, when determining the VOC content of low solids stains and wood preservatives, exclude the weight but include the volume of water and exempt compounds.

See Appendix F to determine whether to include or exclude water and exempt compounds when calculating VOC content, VOC amount, and volume manufactured or imported.

Determine VOC Content
Example 1 — Any architectural coating except low solids stains and low solids wood preservatives [§ 59.406(a)(1)]

For these coatings, you determine the VOC content in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation and excluding the weight and volume of any water and exempt compounds. Use the following equation:

$$\text{VOC Content} = \frac{W_s - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

This term...	means...	expressed in...
VOC content	grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation and excluding the weight and volume of any water and exempt compounds	grams/liter (g/ℓ)
W_s	weight of volatiles	grams (g)
W_w	weight of water	grams
W_{ec}	weight of exempt compounds (exempt compounds are specified in Appendix D of this guide)	grams
V_m	volume of coating	liters (ℓ)
V_w	volume of water	liters
V_{ec}	volume of exempt compounds	liters

Example: A Method 24 analysis of a sample of an exterior flat coating shows that the coating has the following composition:

W_s	=	0.4510 grams	V_m	=	0.0005 liters
W_w	=	0.4145 grams	V_w	=	0.0004 liters
W_{ec}	=	0 grams	V_{ec}	=	0 liters

$$\frac{0.4510\ \text{g} - 0.4145\ \text{g} - 0\ \text{g}}{0.0005\ \ell - 0.0004\ \ell - 0\ \ell} = \frac{0.0365\ \text{g}}{0.0001\ \ell} = 365\ \text{grams VOC per liter}$$

Determine VOC Content
Example 2 — Low Solids Stains and Wood Preservatives
[§ 59.406(a)(2)]

For low solids coatings, you determine the VOC content in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation and excluding the weight but including the volume of any water and exempt compounds. Use the following equation:

$$\text{VOC Content}_{ls} = \frac{W_s - W_w - W_{ec}}{V_m}$$

This term...	means...	expressed in...
VOC content$_{ls}$	grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation and including the volume of any water and exempt compounds	grams/liter (g/ℓ)
W_s	weight of volatiles	grams(g)
W_w	weight of water	grams
W_{ec}	weight of exempt compounds	grams
V_m	volume of coating	liters (ℓ)

Example: A method 24 analysis of a sample of a low solids wood preservative shows the following composition:

W_s = 0.4400 g
W_w = 0.2300 g
W_{ec} = 0.1555 g

V_m = 0.0005 ℓ

$$\frac{0.4400\ g - 0.2300\ g - 0.1555\ g}{0.0005\ \ell} = \frac{0.0545\ g}{0.0005\ \ell} = 109 \text{ grams VOC per liter}$$

Determine VOC Content
Example 3 — Recycled Coatings
[§ 59.406(a)(3)]

For recycled coatings, you have the option of calculating an adjusted VOC content. The adjusted VOC content provides some credit for the amount of post-consumer materials contained in the coating.

$$\text{Percent Post-consumer Coating} = \frac{\text{Volume of Post-consumer Coating}}{\left(\text{Volume of Post-consumer Coating} + \text{Volume of Virgin Materials}\right)} \times 100 \text{ Percent} \qquad \textbf{(1)}$$

$$\text{Adjusted VOC Content} = \text{Actual VOC Content} - \left(\text{Actual VOC Content} \times \frac{\text{Percent Post-consumer Coating}}{100}\right) \qquad \textbf{(2)}$$

This term...	means...	expressed in...
Adjusted VOC content	The VOC content assigned to the recycled coating for purposes of complying with the VOC content limits (calculated using equation 2)	grams/liter (g/ℓ)
Actual VOC content	The VOC content of the coating as determined using the equations in examples 1 and 2	grams/liter
Percent post-consumer coating	The volume percent of a recycled coating that is post-consumer coating materials (calculated using equation 1)	percent (%)
Volume of post-consumer coating	The volume of post-consumer coating materials used in the production of a recycled coating	liters (ℓ)
Volume of virgin materials	The volume of virgin coating materials used in the production of a recycled coating	liters

Determine VOC Content
Example 3 — Recycled Coatings (Continued)

Example: A manufacturer produces 100 liters of an interior nonflat coating and 40 liters of the coating material is made up of post-consumer coatings. The VOC content determined using the equation in Example 1 is 425 g/l. Determine the adjusted VOC content as follows.

$$\text{Percent Post-Consumer Material} = \frac{40 \text{ liters}}{(40 \text{ liters} + 60 \text{ liters})} \times 100 = 40 \text{ percent}$$

$$\text{Adjusted VOC Content} = 425 \text{ g/}\ell - \left(425 \text{ g/}\ell \times \frac{40}{100}\right) = 255 \text{ grams VOC per liter}$$

Returned goods, i.e., unsold coatings returned to a manufacturer from a retail store, are not considered to be post-consumer coating and cannot be used to compute an adjusted VOC content.

If you use post-consumer coatings in addition to virgin materials, you have the option of using the recycled coating equation, which gives you credit for the amount of post-consumer material in the coating. Using the equation is not required, however, if you do use it, then special labeling, recordkeeping, and reporting requirements apply.

3.7 What must I do if all of my coatings meet the VOC content limits?

If your coatings already meet the VOC content limits or if you reformulate your coatings to meet the limits before September 13, 1999 (March 13, 2000 for FIFRA-registered coatings), then you must submit the initial report and comply with the labeling requirements. A compliance test is not required. However, you are responsible for ensuring that each of your coatings does in fact meet the VOC content limits on a continuous basis.

You have the flexibility to use any means that you choose to ensure compliance with the VOC content limits. For example, you could use batch production records or quality assurance tests of product formulations. However, EPA will enforce the regulation using EPA Method 24 as the reference method (or an alternative method that would be approved on a case-by-case basis). If there is any discrepancy between the results of a Method 24 test or alternative method test and any other means of determining VOC content, the Method 24 (or approved alternative) test results will govern. In addition, EPA may request at any time that you conduct a Method 24 test to demonstrate compliance.

Figure 4 explains the steps you must follow if your coatings meet the VOC content limits before the compliance deadline.

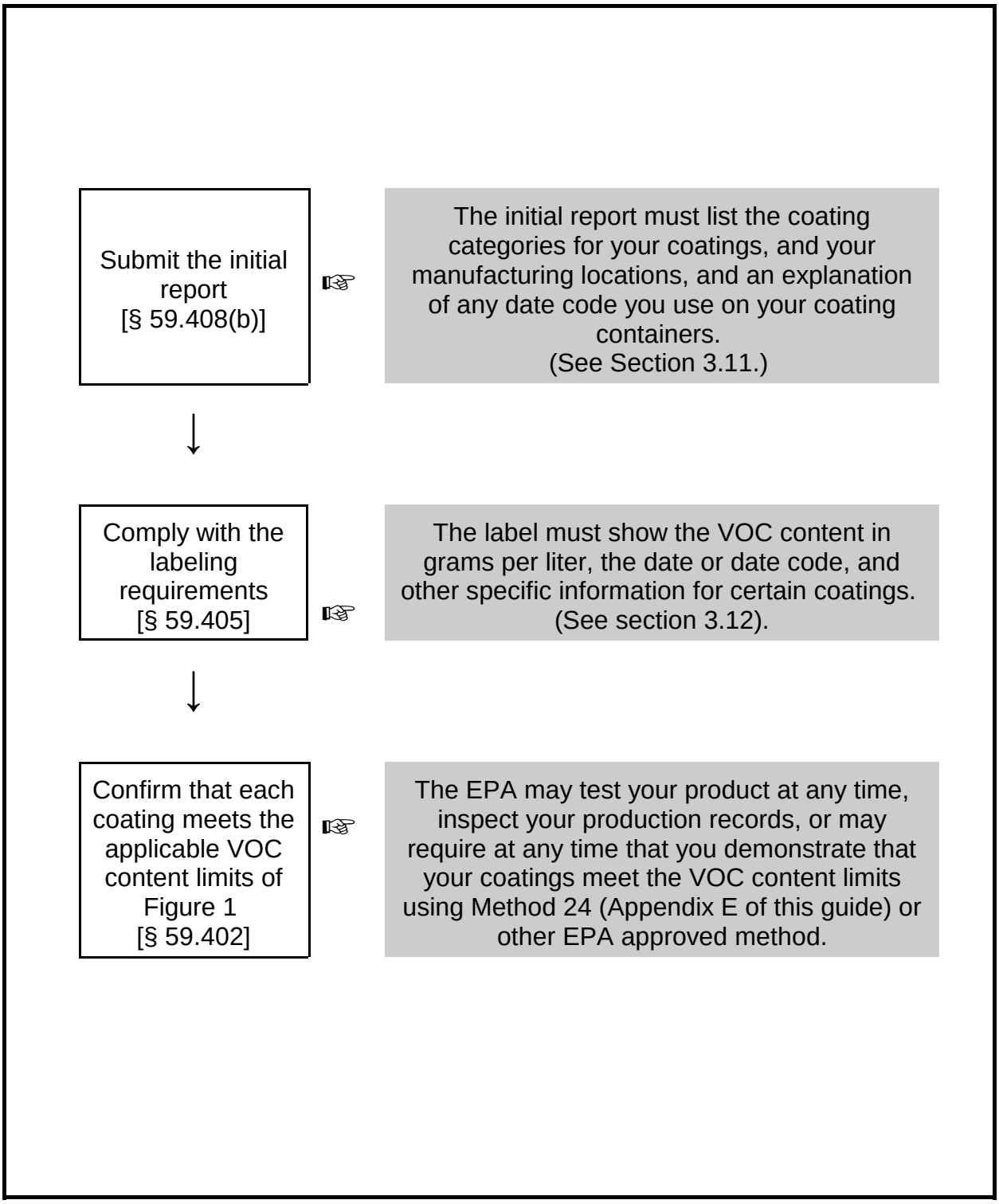


Figure 4. What Must I Do If All Of My Coatings Meet the VOC Content Limits?

3.8 How can I use the tonnage exemption? [§59.404]

The tonnage exemption option allows you to exceed the applicable VOC content limits of the regulation for a limited quantity of coatings. You can use the tonnage exemption for multiple coatings, but the total megagrams of VOC (VOC amount) contained in all the coatings you claim under the exemption combined may not exceed the amounts listed below. You do not have to pay the exceedance fee on the volume of coatings that use this exemption.

You may exempt a total volume of coatings that contain this amount of VOC...	During this time period...
23 megagrams (25.3 tons) VOC	September 13, 1999 through December 31, 2000
18 megagrams (19.8 tons) VOC	January 1, 2001 through December 31, 2001
9 megagrams (9.9 tons) VOC	Each subsequent calendar year

A megagram is a metric ton (also referred to as a tonne), which is equal to the following:

- **1000 kilograms**
- **2204 pounds**
- **1.102 English tons**

To convert English tons to megagrams, multiply by 1.102.

The VOC amount* that is counted toward the tonnage exemption is based on the **total** amount of VOC contained in each of the coatings for which you claim an exemption. This is in contrast to the exceedance fee, which is based on the difference between the VOC content of each coating and the applicable VOC content limit in the

*Regulation correction; see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that "VOC content" is used for calculating the grams VOC per liter of each coating to determine compliance with the VOC content limits. "VOC amount" is used for calculating the grams VOC per liter of each coating claimed under the tonnage exemption.

regulation. You must include the manufacturer's maximum thinning recommendation for both VOC content and VOC amount determinations.

The "VOC content" is used to determine compliance with the VOC content limits and to determine the "excess VOC" for the exceedance fee. The "VOC amount" is only used for calculating the "megagrams of VOC" for the tonnage exemption.

Figure 5 explains the steps that you must follow to use the tonnage exemption. You are not required to declare to EPA in advance that you are choosing this option, nor is any advance approval required. You simply submit a report by March 1 of the year after you claim the tonnage exemption. For example, if you use the tonnage exemption option for the year 2001, then you submit a report on March 1, 2002.

Section 3.1.5 of this guide describes how to use the tonnage exemption in toll and private-label manufacturing.

When determining the VOC amount for the tonnage exemption (regardless of the type of coating), include the volume of water and exempt compounds and exclude the volume of colorants added to tint bases. When determining the volume manufactured or imported for the tonnage exemption, include the volume of water and exempt compounds (see Appendix F).

A company made up of divisions and subsidiaries is considered to be a single manufacturer and is allowed only one tonnage exemption per year.

The tonnage exemption will be enforced in the metric units of megagrams, which is equal to 2,204 pounds.

Volumes include water and exempt compounds.

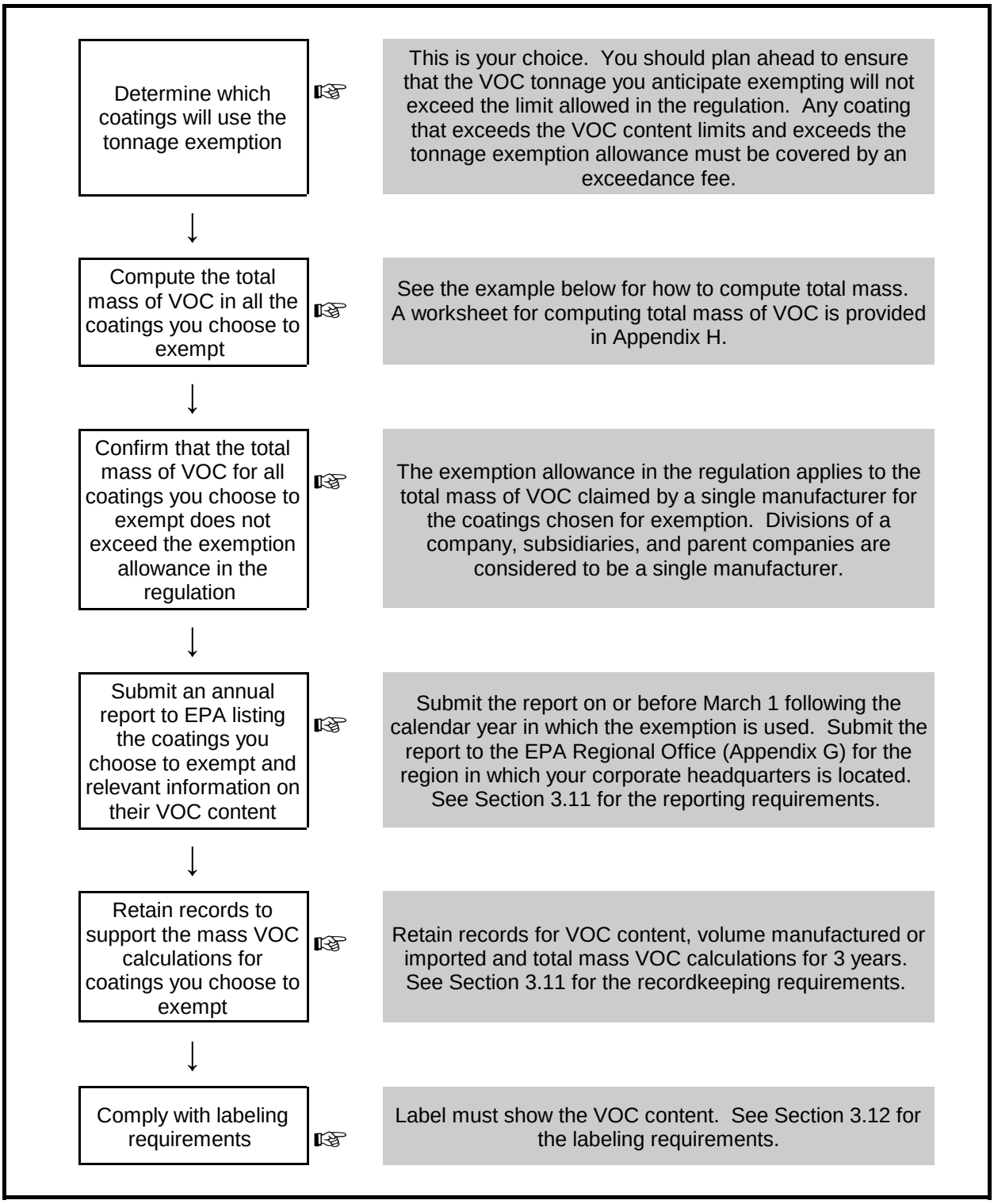


Figure 5. How Can I Use the Tonnage Exemption?

Tonnage Exemption — Example Calculation [§ 59.404]

This example uses coatings manufactured by a fictitious company - Company A. Company A is claiming the exemption for the period of September 13, 1999 to December 31, 2000. Therefore, it may exempt coatings that, in total, contain no more than 23 megagrams (25.3 tons) of VOC. Company A identified three products that exceed the VOC content limits in the regulation and for which they will comply using the tonnage exemption.

Tonnage Exemption — *Step 1 - Identify the coatings for which you want to use the tonnage exemption*. For each coating, determine the volume that was manufactured or imported including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases for the time period for which you are claiming the exemption.* (See Appendix F to determine whether to include or exclude water and exempt compounds when calculating VOC content, VOC amount, and volume manufactured or imported.) For example, between September 13, 1999 and December 31, 2000, Company A manufactured 40,000 liters of Coating 1; 10,000 liters of Coating 2; and 5,000 liters of Coating 3.

Coating	A
	Volume Manufactured or Imported (liters)
Coating 1	40,000
Coating 2	10,000
Coating 3	5,000

*Regulation correction [§ 59.404, Equation 4]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that the volume manufactured or imported includes the volume of any water and exempt compounds and excludes the volume of any colorant added to tint bases.

Tonnage Exemption — Example Calculation [§ 59.404] (Continued)

Tonnage Exemption — ***Step 2 - Determine the amount of VOC contained in 1 liter of each coating***. Determine the VOC amount, which is the mass (grams) of VOC in each liter of coating.* For this calculation, it is not necessary to exclude the volume of water and exempt compounds. For example, the VOC contained in Coating 1 is 350 grams per liter thinned to the manufacturer's maximum recommendation, including the volume of water and any exempt compounds*.

Coating	A	B
	Volume Manufactured or Imported (liters)	VOC Amount [Grams VOC per liter of coating (grams per liter)]
Coating 1	40,000	350
Coating 2	10,000	600
Coating 3	5,000	400

*Regulation correction [§ 59.404, Equation 4]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) replaces "VOC content" with "VOC amount" to distinguish this term from the term "VOC content" used elsewhere in the regulation [§ 59.404(b)].

Tonnage Exemption — Example Calculation [§ 59.404] (Continued)

Tonnage Exemption — ***Step 3 - Calculate the total VOC***. Now that you have collected all the necessary information, you are ready to calculate the grams VOC for the coatings that you have chosen. Calculate the total VOC in grams by multiplying the volume of coating manufactured or imported (liters) by the amount of VOC in 1 liter of coating (grams per liter). For example, for Coating 1, the grams of VOC is:

(40,000 liters) (350 grams/liter) = 14,000,000 grams

Next, convert the result from above to megagrams by dividing by 1,000,000. For example, for Coating 1 the resulting megagrams of VOC is:

(14,000,000 grams) ÷ (1,000,000 grams per megagram) = 14 megagrams of VOC

Coating	A	B	C (C = A X B)	D ($D = C \div 1 \times 10^6$)
	Volume Manufactured or Imported (liters)	VOC Amount (Grams VOC per liter of coating [grams per liter])	Grams of VOC	Megagrams of VOC
Coating 1	40,000	350	14,000,000	14
Coating 2	10,000	600	6,000,000	6
Coating 3	5,000	400	2,000,000	2
TOTAL				22

From the table above, the three products that Company A has chosen to exempt contain a total of 22 megagrams of VOC. Therefore, Company A is within the allowed 23 megagram exemption for these three coatings for the period of September 13, 1999 through December 31, 2000.

Appendix H contains a worksheet for computing the annual tonnage exemption. Appendix H also contains a table for quickly estimating the megagrams of VOC for a coating.

End of Annual Tonnage Exemption Example

3.9 How can I use the exceedance fee? [§ 59.403]

The exceedance fee compliance option allows you to exceed the applicable VOC content limits of the regulation by paying a fee on the amount of VOC in excess of the VOC content limits. The fee is calculated and paid annually and you can pay the fee on an unlimited number of coatings. The fee is $0.0028 per gram (or about $1.27 per pound) of excess VOC. The fee for a coating is computed as follows:

Fee	=	Annual volume of coating manufactured or imported that does not meet the VOC content limit (liters)	x	VOC content in excess of the applicable limit (grams/liter)	x	0.0028 (dollars/gram)

When determining the volume manufactured or imported for the exceedance fee, include the volume of water and exempt compounds and exclude the volume of colorants added to tint bases. (See Appendix F to determine whether to include or exclude water and exempt compounds when calculating VOC content, VOC amount, and volume manufactured or imported.)

Figure 6 explains the steps that you must follow to use the exceedance fee option. You are not required to declare to EPA in advance that you are choosing this option, nor is any advance approval required. You simply pay the fee and submit the required report by March 1 of the year after you claim the fee. For example, if you use the exceedance fee option for the year 2001, then you submit payment and a report on March 1, 2002. The EPA expects the address for submitting the exceedance fee to change. A notice will be published in the Federal Register. See the architectural coatings web site for the latest information (http://www.epa/gov/ttn/uatw/183e/aim/aimpg.html).

If you represent a coating as both a shop coating and as an architectural coating, you must pay the exceedance fee on the entire volume that does not meet the limit. However, if you label and represent the coating as two separate coatings, you must pay the exceedance fee only on the volume that is labeled and represented as an architectural coating.

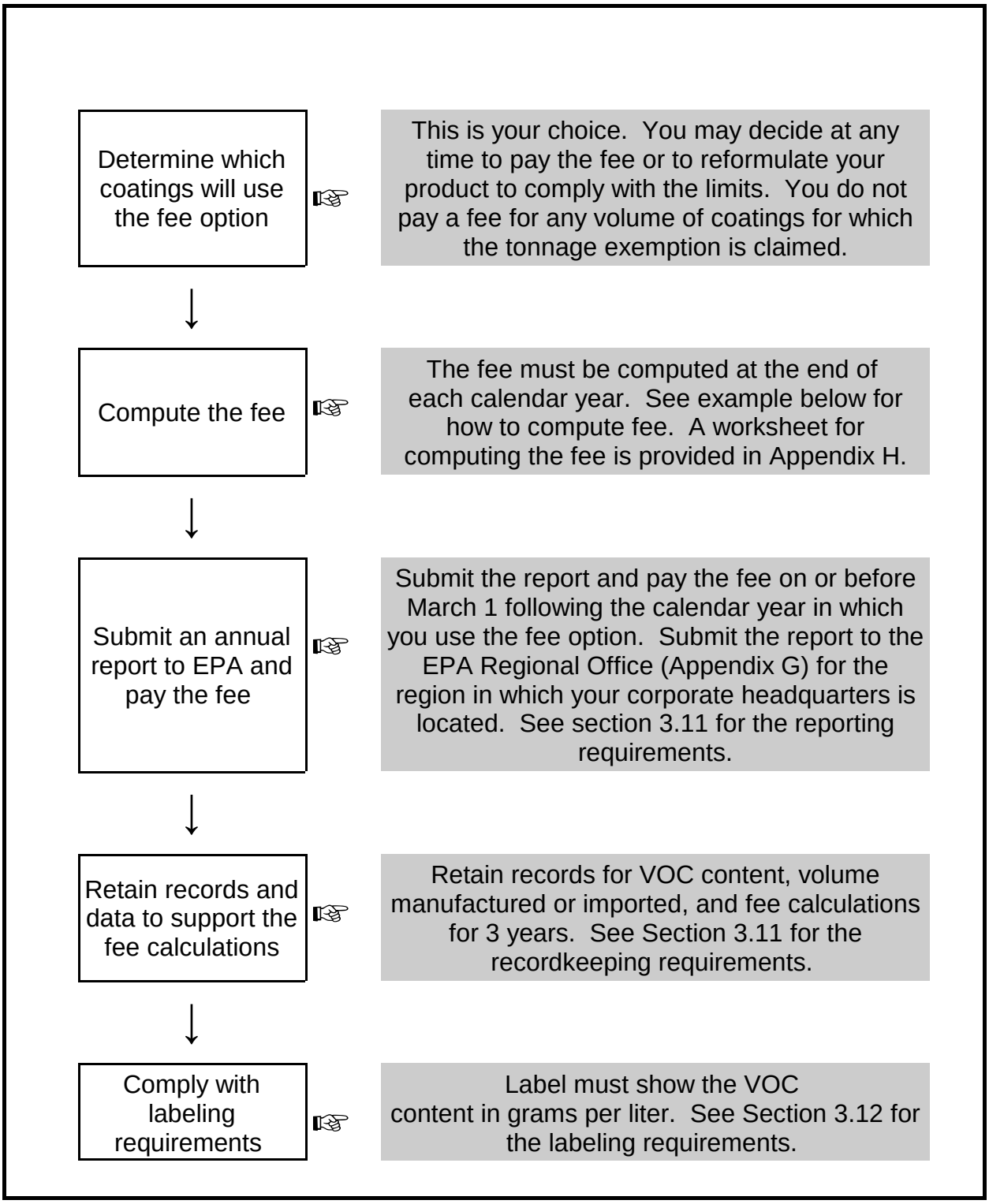


Figure 6. How Can I Use the Exceedance Fee?

Annual Exceedance Fee — Example Calculation [§ 59.403]

This example uses coatings manufactured in one year by a fictitious company - Company B. For simplicity, it is assumed that Company B has already identified three coatings for which the exceedance fee option will be used.

Exceedance Fee — ***Step 1 - Determine the annual volume of the coatings for which you have chosen the exceedance fee option***. For each coating, determine the volume that was manufactured or imported for the calendar year (January 1 through December 31) for which you are calculating the fee. For example, Company B manufactured 5,000 liters of coating 1. They manufactured 75,000 liters of Coating 2, but reformulated during the year, such that 25,000 liters complied with the regulation. Therefore, the fee will be paid on only 50,000 liters of Coating 2. They manufactured 30,000 liters of Coating 3. The volume manufactured or imported per year, in liters, includes the volume of any water and exempt compounds and excludes the volume of any colorant added to tint bases.* See Appendix F to determine whether to include or exclude water and exempt compounds when calculating VOC content, VOC amount, and volume manufactured or imported.

Coating	A
	Annual Volume Manufactured or Imported (liters)
Coating 1	5,000
Coating 2	50,000
Coating 3	30,000

If you choose to use the exceedance fee option beginning on September 11, 1999 (when the regulation takes effect), you must calculate the fee for the period September 11, 1999 through December 31, 1999 and submit the report and pay the fee by March 1, 2000. For subsequent years, you must pay the fee for the entire calendar year for coatings that you choose this option.

*Regulation correction [§ 59.403, Equation 2]; the technical correction notice (Appendix A) clarifies that the volume manufactured or imported includes the volume of any water and exempt compounds and excludes the volume of any colorant added to tint bases.

Annual Exceedance Fee — Example Calculation [§ 59.403] (Continued)

Exceedance Fee — ***Step 2 - Determine the VOC content of each coating***. Determine the VOC content of each of your coatings using the procedure described in Section 3.6 of this guide. For example, the VOC content of Coating 1 is 400 grams per liter.

Coating	A	B
	Annual Volume Manufactured or Imported (liters)	**VOC Content (grams per liter)**
Coating 1	5,000	400
Coating 2	50,000	550
Coating 3	30,000	350

Annual Exceedance Fee — Example Calculation [§ 59.403] (Continued)

Exceedance Fee — ***Step 3 - Identify the VOC content limit in the regulation that applies to each coating***. The amount of the fee is based on the difference between the VOC content of each coating and the applicable VOC content limit in the regulation. Therefore, you need to identify the coating category and the applicable limit. For additional guidance on determining the applicable coating category for your coatings, see Section 3.5 of this guide. For example, Company B has determined that Coating 1 meets the definition of the concrete curing compounds category and is, therefore, subject to a VOC content limit of 350 grams per liter.

Coating	A	B	C
	Annual Volume Manufactured or Imported (liters)	**VOC Content (grams per liter)**	**Category and Applicable VOC Content Limit in Regulation (grams per liter)**
Coating 1	5,000	400	concrete curing compound 350
Coating 2	50,000	550	anti-fouling coating 450
Coating 3	30,000	350	flat - exterior coating 250

Annual Exceedance Fee — Example Calculation [§ 59.403] (Continued)

Exceedance Fee — ***Step 4 - Calculate the VOC content that is above the limit (i.e., excess VOC)***. Subtract the applicable VOC content limit from the VOC content of the coating. For example, for Coating 1, the VOC content above the limit is:

400 grams per liter - 350 grams per liter = 50 grams per liter

Coating	A	B	C	D (D = B - C)
	Annual Volume Manufactured or Imported (liters)	**VOC Content (grams per liter)**	**Category and Applicable VOC Limit in Regulation (grams per liter)**	**VOC Content Above the Limit (grams per liter)**
Coating 1	5,000	400	concrete curing compound 350	50
Coating 2	50,000	550	anti-fouling coating 450	100
Coating 3	30,000	350	flat - exterior coating 250	100

Annual Exceedance Fee — Example Calculation [§ 59.403] (Concluded)

Exceedance Fee — ***Step 5 - Calculate the exceedance fee for each coating and the total exceedance fee for all coatings***. To calculate the exceedance fee, first multiply the volume manufactured or imported by the VOC content that is above the limit (i.e., "excess VOC"). This represents the total grams of VOC exceeding the limit for the volume of the coating that was manufactured. For example, for Coating 1 this would be:

5,000 liters x 50 grams per liter = 250,000 grams

Next, multiply the number of grams of VOC exceeding the limit by the fee rate to determine the fee for that product for that year. For example, for Coating 1 this would be:

250,000 grams x $0.0028 per gram = $700

Finally, determine the total exceedance fee by adding up the fee for all of the products for which you have chosen the fee compliance option. For Company B, the total exceedance fee is:

$700 + $14,000 + $8,400 = $23,100

Coating	A Annual Volume Manufactured or Imported (liters)	B VOC Content Exceeding the Limit (grams per liter)	C (C = A X B) Grams of VOC Exceeding the Limit	D Fee Rate (dollars per gram of excess VOC)	E (E = C x D) Amount of Fee Owed for Each Coating (dollars)
Coating 1	5,000	50	250,000	0.0028	$700
Coating 2	50,000	100	5,000,000	0.0028	$14,000
Coating 3	30,000	100	3,000,000	0.0028	$8,400
TOTAL					$23,100

End of Annual Exceedance Fee Example

3.10 How can I use more than one compliance option?

[§§ 59.402, 59.403, and 59.404]

The regulation allows you to use more than one compliance option for your coatings. For example, you can meet the VOC content limits for some coatings, use the tonnage exemption for some coatings, and pay the exceedance fee for some coatings. In fact, you can even claim the tonnage exemption for a part of a coating's volume and pay the exceedance fee for the rest of its volume.

The following example shows how a fictitious company, Company C, has determined how it will comply with the regulation for the September 13, 1999 through December 31, 2000 time frame.

Combination of Compliance Options — Example Calculation

Combination of Options — ***Step 1 - Assemble information on your coatings***. Assemble the following information for each of your coatings: the volume manufactured or imported, the VOC content, the category, and the applicable VOC content limit in the regulation. The table below shows this information for all 10 coatings that are manufactured by Company C between September 13, 1999 and December 31, 2000.

Coating	Volume Manufactured or Imported (liters)	VOC Content (grams per liter)	Category and Applicable VOC Limit in Regulation (grams per liter)
Coating A	5,000	325	Opaque Stain - 350
Coating B	40,000	550	Nuclear Coating - 450
Coating C	25,000	500	Bond Breaker - 600
Coating D	100,000	700	Metallic Pigmented - 500
Coating E	150,000	275	Exterior Flat - 250
Coating F	35,000	400	Roof Coatings - 250
Coating G	60,000	500	Varnish - 450
Coating H	300,000	400	Varnish - 450
Coating I	75,000	700	Concrete Surface Retarder - 780
Coating J	15,000	600	Industrial Maintenance - 450

Combination of Compliance Options — Example Calculation (Continued)

Combination of Options — ***Step 2 - Identify coatings that meet the VOC content limits in the regulation***. Identify those coatings that are already in compliance with the VOC content limits in the regulation. Also, identify those coatings that you plan to reformulate to meet the limits. As shown below, Company C has four coatings that already meet the VOC content limits (Coatings A, C, H and I) and two coatings that they will reformulate to meet the limits (Coatings E and G). The remaining coatings (Coatings B, D, F and J) exceed the VOC content limits and will not be reformulated (at least not in time to comply with the limits).

Coating	Volume Manufactured or Imported (liters)	VOC Content (grams per liter)	Category and Applicable VOC Limit in Regulation (grams per liter)	Chosen Compliance Option
Coating A	5,000	325	Opaque Stain - 350	Already meets limit
Coating B	40,000	550	Nuclear Coating - 450	--
Coating C	25,000	500	Bond Breaker - 600	Already meets limit
Coating D	100,000	700	Metallic Pigmented - 500	--
Coating E	150,000	275	Exterior Flat - 250	Reformulate to meet limit
Coating F	35,000	400	Roof Coatings - 250	--
Coating G	60,000	500	Varnish - 450	Reformulate to meet limit
Coating H	300,000	400	Varnish - 450	Already meets limit
Coating I	75,000	700	Concrete Surface Retarder - 780	Already meets limit
Coating J	15,000	600	Industrial Maintenance - 450	--

Combination of Compliance Options — Example Calculation (Continued)

Combination of Options — ***Step 3 - Determine the coatings that will comply using the tonnage exemption*** . Now that you have identified the coatings that exceed the VOC content limits and cannot be reformulated during this time period, you must decide whether you will choose the annual tonnage exemption or exceedance fee compliance option for these coatings.

Since the tonnage exemption is free, it makes sense to first identify the coatings for which you can use the tonnage exemption. Since the tonnage exemption is based on the VOC amount (grams of VOC per liter of coating excluding the weight, but including the volume of water and exempt compounds), determine the VOC amount for each coating. Then, for each coating, determine the total megagrams of VOC using the procedure in Section 3.8 of this guide. The total megagrams of VOC for Company C's coatings that exceed the VOC content limits are shown in the table below.

Coating	Volume Manufactured or Imported (liters)	VOC Amount (grams of VOC per liter of coating [grams per liter])	Total Megagrams of VOC
Coating B	40,000	550	22
Coating D	100,000	700	70
Coating F	35,000	400	14
Coating J	15,000	600	9
		TOTAL	115

Combination of Compliance Options — Example Calculation (Continued)

Since Company C is complying in the September 13, 1999 through December 31, 2000 time frame, they are limited to a tonnage exemption of 23 megagrams. Since the total megagrams for coatings B, D, F, and J is 115 megagrams, Company C must choose which ones to exempt. They can choose any combination of the coatings as long as the total megagrams do not exceed the 23 megagram level. For example, three examples of valid options for Company C are:

Option 1: Claim an exemption for Coating B (22 megagrams)

Option 2: Claim an exemption for Coating F and Coating J (14 megagrams + 9 megagrams = 23 megagrams)

Option 3: Claim the tonnage exemption for a part of Coating D's volume and then pay the exceedance fee on the remaining part of the volume. For example, Company C could claim the tonnage exemption for the fraction of Coating D's volume that equals 23 megagrams. The volume that equates to 23 megagrams is determined by:

<u>Step 1 - Convert the annual tonnage exemption level from megagrams to grams.</u>

(23 megagrams) (1,000,000) = 23,000,000 grams

<u>Step 2 - Divide the annual tonnage exemption level in grams by the VOC content of the coating</u>

(23,000,000 grams) / 700 grams per liter = 32,857 liters

Therefore, Company C can exempt 32,857 liters of Coating D and pay the fee on the remaining 67,143 liters of Coating D and all of Coatings B, F, and J.

For the purposes of this example, we assume that Company C chooses option 2 and claims all of Coating F and all of Coating J under the tonnage exemption. Therefore, the fee must be paid on Coatings B and D.

Combination of Compliance Options — Example Calculation (Continued)

Combination of Options — ***Step 4 - Calculate the exceedance fees due***. You must now calculate the amount of fee that is due for all the coatings that do not meet the VOC content limits, that will not be reformulated, and that will not be claimed under the tonnage exemption. For Company C, these are Coatings B and D. The fee should be determined using the procedure in Section 3.9 of this guide.

Coating	Volume Manufactured or Imported (liters)	VOC Content (grams per liter)	Category and Applicable VOC Limit in Regulation (grams per liter)	Exceedance Fee Due (dollars)
Coating B	8,000 (9/13/99 thru 12/31/99)	550	Nuclear Coating 450	$2,240
Coating B	32,000 (1/1/00 thru 12/31/00)	550	Nuclear Coating 450	$8,960
Coating D	20,000 (9/13/99 thru 12/31/99)	700	Metallic Pigmented 500	$11,200
Coating D	80,000 (1/1/00 thru 12/31/00)	700	Metallic Pigmented 500	$44,800
			TOTAL	$67,200

If you choose to use the exceedance fee option beginning on September 13, 1999 (when the regulation takes effect), you must calculate the fee for the period September 13, 1999 through December 31, 1999 and submit the report and pay the fee by March 1, 2000. For subsequent years, you must pay the fee for the entire calendar year for coatings using this option.

Combination of Compliance Options — Example Calculation (Concluded)

Combination of Options — ***Step 5 - Summary***. The following table summarizes the compliance options that Company C has chosen in this example. These options are not the only ones that could have been chosen for this array of products. This example, however, demonstrates the flexibility that the regulation offers to manufacturers and importers for determining the most cost-effective compliance strategy.

Coating	Volume Manufactured or Imported (liters)	VOC Content (grams per liter)	Category and Applicable VOC Limit in Regulation (grams per liter)	Compliance Options Selected
Coating A	5,000	325	Opaque Stain - 350	Already meets limit
Coating B	40,000	550	Nuclear Coating - 450	Pay total exceedance fee of $11,200
Coating C	25,000	500	Bond Breaker - 600	Already meets limit
Coating D	100,000	700	Metallic Pigmented - 500	Pay total exceedance fee of $56,000
Coating E	150,000	275	Exterior Flat - 250	Reformulate to meet limit
Coating F	35,000	400	Roof Coatings - 250	Claim tonnage exemption
Coating G	60,000	500	Varnish - 450	Reformulate to meet limit
Coating H	300,000	400	Varnish - 450	Already meets limit
Coating I	75,000	700	Concrete Surface Retarder - 780	Already meets limit
Coating J	15,000	600	Industrial Maintenance - 450	Claim tonnage exemption

End of Combination of Compliance Options Example

3.11 What reports and records are required?

[§§ 59.407, 59.408]

You must submit an initial notification report to EPA if you manufacture or import coatings in any of the categories of architectural coatings in Figure 1. This initial report must include the following information:

- your name and address,
- the street address of each one of your facilities in the United States that is producing, packaging, or repackaging any architectural coating subject to the regulation,
- a list of categories from Figure 1 for which your coatings meet the definitions in the regulation, and
- an explanation of any date code used on a container to represent the date of manufacture of the coating.

The initial report must be submitted by the later of the following two deadlines:

- September 13, 1999 (for coatings registered under FIFRA, the initial report must be submitted by March 13, 2000*), or
- 180 days after the date you manufacture or import an architectural coating for the first time.

If you submit an initial notification report, then you are not required to submit subsequent notification reports for coatings that you manufacture for the first time after your initial notification. However, if you introduce a new date code for your coating containers that was not explained in the initial notification report, then you must submit an explanation of the new date code no later than 30 days after you first use it.

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*Regulation correction [§ 59.408(b)]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that the deadline for submitting the initial notification report for coatings registered under FIFRA is March 13, 2000, rather than September 13, 1999.

You must submit your reports and other correspondence to the Regional Office of the U.S. Environmental Protection Agency that serves the State or Territory where your corporate headquarters is located. Appendix G lists each Regional Office and the States and Territories it serves. Appendix I contains an example template you may use, if desired, for the initial notification report.

The EPA expects the address for submitting the exceedance fee to change. A notice will be published in the Federal Register. See the architectural coatings web site for the latest information (http://www.epa/gov/ttn/uatw/183e/aim/aimpg.html).

If your manufactured, repackaged, or imported coatings meet the VOC content limits in Figure 1, then you submit the initial report, but you do not have to prepare periodic reports or records. If you choose to comply using one or more of the other options provided in the regulation, then you must prepare certain periodic reports and records as shown in the following table.

A parent company must ensure that an initial report and any required periodic reports and exceedance fee payments are submitted by the deadlines for all its divisions and subsidiaries.

The date code is the only information in the initial report you must report again if a change occurs. If you change the date code, then you must submit an explanation of the new date code no later than 30 days after first use.

Recordkeeping and Reporting Requirements [§§ 59.407, 59.408]

If you choose this option...	then you must report...	by this date...	and for 3 years keep a record of...
Pay an annual exceedance fee	• the coatings and associated categories in Figure 1 for which fee is used • VOC content of each coating that exceeds the limits in Figure 1 • excess VOC content of each coating in grams of VOC per liter of coating • total volume of each coating manufactured or imported per calendar year, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases* • annual fee for each coating • total annual fee for all coatings	March 1 after each calendar year you use exceedance fee	• the coatings and associated categories for which fee is used • VOC content of each coating in grams of VOC per liter of coating • excess VOC content of each coating in grams of VOC per liter of coating • total volume of each coating manufactured or imported per calendar year, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases * • annual fee for each coating • total annual fee for all coatings • calculations of the annual fee for each coating and calculations of the total annual fee as determined using the procedure in the regulation

*Regulation correction [§§ 59.407, 59.408]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that the VOC amount includes the volume of any water and exempt compounds and excludes the volume of any colorant added to tint bases.

Recordkeeping and Reporting Requirements [§§ 59.407, 59.408] (Continued)

If you choose this option...	then you must report...	by this date...	and for 3 years keep a record of...
Claim a tonnage exemption	• all coatings in Figure 1 for which exemption is claimed • the VOC amount in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases * • volume manufactured or imported**, in liters, for each coating for which exemption is claimed for the time period the exemption is claimed • total megagrams of VOC contained in all coatings for which the exemption is claimed for the time period the exemption is claimed	March 1 after each year you use tonnage exemption	• all coatings in Figure 1 for which exemption is claimed • the VOC amount in grams VOC per liter of coating thinned to the manufacturer's maximum recommendation including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases * • volume manufactured or imported**, in liters, for each coating for which exemption is claimed for the time period the exemption is claimed • total megagrams of VOC contained in each coating for which the exemption is claimed, and for all coatings combined for which the exemption is claimed, for the time period the exemption is claimed

*Regulation correction [§§ 59.407, 59.408]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) clarifies that the VOC amount includes the volume of any water and exempt compounds and excludes the volume of any colorant added to tint bases.

**Regulation correction [§§ 59.407, 59.408]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) requires you to keep a record and report the volume manufactured or imported, rather than actual sales.

Recordkeeping and Reporting Requirements [§§ 59.407, 59.408] (Continued)

If you choose this option...	then you must report...	by this date...	and for 3 years keep a record of...
Use the adjusted VOC content for recycled coating	• minimum volume % of post-consumer coating content for each recycled coating • volume of post-consumer coating received for recycling • volume of unusable post-consumer coating received • volume of virgin materials • volume of the final recycled coating manufactured or imported	March 1 after each calendar year you use the adjusted VOC content	• minimum volume % of post-consumer coating content for each recycled coating • volume of post-consumer coating received for recycling • volume of unusable post-consumer coating received • volume of virgin materials • volume of the final recycled coating manufactured or imported • calculations of the adjusted VOC content as determined using equation 7 in the regulation

3.12 How do I comply with the container labeling requirements? [§ 59.405]

The label or lid of each container in which a coating is sold or distributed must contain the applicable information from the following table.

If the coating is...	Then the container must indicate...
Any architectural coating subject to the regulation	**Date** Date that the coating was manufactured (may also be provided on the bottom of the container). Alternatively, a date code may be used instead of the date if you provide EPA with an explanation of the date code in the initial notification report and no later than 30 days after a new or revised date code system is used. The explanation will allow EPA to read the date code and determine the date the coating was manufactured. **VOC content of the coating** You have two options: 1. The VOC content of the coating in grams of VOC per liter or pounds of VOC per gallon*, or 2. The applicable VOC content limit in Table 1 with which the coating complies. NOTE: You must use the first option for each coating that does not meet the VOC content limit (i.e., those for which you are using the tonnage exemption or exceedance fee provisions). **Thinning Recommendation** A quantitative thinning recommendation is required only if you recommend thinning with an organic solvent, not water. If solvent thinning is not necessary, specify that the coating is to be applied without thinning.
Industrial maintenance coating	The information above and one or more of the following statements: 1. "For industrial use only" 2. "For professional use only" 3. "Not for residential use," or "Not intended for residential use" 4. "This coating is intended for use under the following condition(s):" and list any of these conditions that apply: - Immersion in water, wastewater, or chemical solutions (aqueous and nonaqueous solutions), or chronic exposure of interior surfaces to moisture condensation; - Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions; - Repeated exposure to temperatures above 120 ^{o}C (250 ^{o}F); - Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or - Exterior exposure of metal structures and structural components

*Regulation correction [§ 59.405(a)(3)(i)]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) allows you to label the VOC content in either metric or English units, rather than just metric units.

If the coating is...	Then the container must indicate...
Recycled coating (if you use the adjusted VOC content)	The VOC content and thinning information above and “Contains not less than X percent by volume post-consumer coating”

You may label the VOC content in either metric or English units, however, the regulation will be enforced in metric units.*

*Regulation correction [§ 59.405(a)(3)(i)]; see page 7 for where to get the latest information. The technical correction notice (Appendix A) allows you to label the VOC content in either metric or English units, rather than just metric units.

3.13 How does the regulation affect me if I apply traffic markings? [§ 59.406(d)]

If you apply traffic markings you are not subject to the regulation unless you also manufacture or import coatings. However, you may be indirectly affected by the regulation due to changes in the availability of the traffic markings you apply.

The regulation contains a 150 gram per liter VOC content limit for traffic markings. Traditional solventborne traffic markings contain VOC in excess of the 150 gram per liter limit. In some cases, manufacturers may continue to produce traffic markings that exceed this limit by using the tonnage exemption or the exceedance fee provisions. However, traffic markings that exceed the 150 gram per liter limit are likely to be in short supply after September 13, 1999, when the regulation takes effect.

Therefore, if you apply one of these coatings and it is no longer available, you will need to switch to a traffic marking that complies with the VOC content limit.

Low-VOC traffic markings that typically meet the 150 gram per liter limit include, but are not limited to:

- **waterborne paints**
- **acetone-based solventborne paints**
- **epoxies**
- **thermoplastics**
- **permanent markers**
- **polyesters, and**
- **preformed tapes**

If you apply solventborne traffic markings now, you may need to modify your application equipment or purchase new application equipment in order to apply traffic markings that comply with the limit. For example, many older solventborne traffic striping trucks cannot apply waterborne traffic markings without modifications. The table below outlines the changes that are required for switching from solventborne traffic marking paint to another technology.

Check with your supplier of traffic markings concerning any possible changes in the availability of the markings that you apply. If you need to switch to a different traffic marking, contact the manufacturer of your application equipment regarding any equipment modifications or purchases that may be necessary.

If you switch from solventborne traffic paint to...	**then the following equipment changes are needed...**
Waterborne traffic paint	If your striper is capable of applying waterborne paint: No changes are necessary. If your striper is not capable of applying waterborne paint: Retrofit your existing striper by increasing pump size and motor power, adding temperature controls, replacing metal parts and tanks with stainless steel, nickel-coated or Teflon®-coated parts and tanks. OR Purchase a new striper that can apply waterborne traffic paint.
Acetone-based traffic paint	No changes are required.
Epoxies Thermoplastics Permanent Markers Polyesters Preformed Tapes	Purchase a new striper that is designed to apply this type of traffic marking.

Traffic marking coating means a coating formulated and recommended for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways.

Most traffic striping machines manufactured after 1994 can apply today's waterborne traffic markings.

4.0 OTHER QUESTIONS AND ANSWERS

After reading section 4, you should know how to determine self-compliance, how the regulation affects your existing air permits, and how you can benefit the environment.

4.1 How might I conduct a self-audit to help me evaluate whether I am in compliance with this regulation?

You may want to conduct a self-audit to determine your compliance status for this regulation. You will want to ensure that you have met all the reporting, recordkeeping, and labeling requirements, and that your coatings meet the VOC content limits. For any coatings that do not meet the limits, you will want to ensure that you are complying with either the tonnage exemption or exceedance fee option. To help you with this self-audit, Figure 7 provides a checklist you may find helpful. You are not required to use this checklist, however, and may find another tool for conducting a self-audit to be more useful.

Figure 7. SELF-AUDIT CHECKLIST

Requirement	Yes	No	NA
Applicability: Am I subject to this regulation? Did I manufacture, or import, any of the coating categories listed in Table 1 to subpart D in the U.S.? (If "yes" to any of the following, then you are subject to this regulation)			
1. After September 13, 1999?			
2. In containers larger than 1 liter?			
3. In other than non-refillable aerosol containers?			
Labeling: Does my product contain the following on the product container label or lid?			
1. The date of manufacture or a code indicating manufacturing date			
2. Recommended thinning requirements (does not apply to water thinned paints)			
3. VOC content			
4. Special information if it's an industrial maintenance or recycled coating.			
VOC content of coatings: Is the VOC content I determined for my coating compliant with the content limit in the regulation?			
Did I use EPA Method 24 or another means to determine VOC content? □ Method 24 (or alternative EPA-approved method) □ Formulation □ Batch QA records (viscosity, weight, etc.) □ Batch measurements & records of coating contents □ Other _____			
If I did not use EPA Method 24, am I confident that the coating would be in compliance if tested with Method 24?			
Reporting: Did I submit the required reports to EPA?			
1. Initial notification report of manufacturing facility locations, coating categories being manufactured or imported, and date code explanation.			
2. Periodic reports with the required information: - March 1, 2000 - exceedance fee and recycled coating reports - March 1, 2001 and every March 1 thereafter. Exceedance fee, recycled coating, and tonnage exemption reports.			

Requirement	Yes	No	NA
Recordkeeping: Did I keep the following records for 3 years?			
Recycling: Did I keep the following records?			
1. Volume of coatings received for recycling			
2. Volume received that is unusable			
3. Volume of virgin stock use in recycling			
4. Calculations of the adjusted VOC content for each coating			
5. The minimum volume percent of post-consumer coatings in each coating			
6. Volume of final product manufactured or imported			
Exceedance fees: Did I keep the following records on the coatings for which I am paying a fee?			
1. The coatings category and VOC content of each coating			
2. VOC content of each coating			
3. VOC content in excess of the limit			
4. The volume manufactured or imported			
5. Calculations of the annual fee for each coating and the total annual fee			
6. The annual fee for each coating and total annual fee			
Tonnage exemptions: Did I keep the following records for the coatings exempted?			
1. The VOC amount of each coating exempted			
2. Volume manufactured or imported for each exempted coating			
3. Total VOC exempted for all coatings claimed and for each coating claimed			
4. Calculations of total megagrams of VOC for each coating exempted			

4.2 If I am subject to this regulation, do I have to obtain a Federal operating permit?

Title V of the Clean Air Act requires that certain sources obtain operating permits. However, being subject to the architectural coatings regulation does not by itself create the obligation to apply for a title V operating permit. Nor is a title V permit requirement triggered by the two other regulations that have been issued to date under section 183(e) of the Clean Air Act: the consumer products regulation and the automobile refinish coating regulation.

4.3 What are the implications for my existing operating permits?

The architectural coatings regulation will not affect your existing title V operating permit. If you already have an operating permit issued under 40 CFR part 70 (i.e., a title V permit issued by a State, local government, or Indian Tribe) or an operating permit issued under 40 CFR part 71 (issued by EPA), you do not have to revise your permit to incorporate the requirements of this regulation. Nor will you have to include the requirements of this regulation whenever you renew your permit.

In addition to issuing title V permits, some States, local agencies, and Tribes issue other types of operating permits to sources based on the requirements of State or Tribal law. If such a permit applies to you, you should contact the permitting agency to determine if the requirements of the architectural coatings regulation must be incorporated.

4.4 What is pollution prevention and how can it affect my operations?

Pollution prevention eliminates or minimizes pollution where it originates, so pollution is not created in the first place. The architectural coatings regulation encourages pollution prevention by setting limits on the amount of VOC allowed in coatings. Manufacturers that reformulate their coatings to reduce the VOC content and meet the limits are practicing pollution prevention. Although the regulation includes other compliance options (tonnage exemption and exceedance fee), reformulation is the option that is most beneficial to the environment since it is the only option that results in a reduction of VOC that are actually emitted. Reformulating reduces the amount of VOC in the coatings and, therefore, fewer VOC are emitted during application.

Manufacturers and importers who reformulate their coatings to meet the VOC content limits (or whose coatings already meet the VOC content limits) will save time and money because they are exempt from further recordkeeping and reporting requirements and will not be paying a fee for VOC content in excess of the limit. These manufacturers and importers must only submit an initial report and meet the labeling requirements. However, manufacturers and importers who choose the tonnage exemption will spend time to keep records and submit annual reports. Those who choose the exceedance fee option will spend time to keep records and submit annual reports, as well as pay the fee.

4.5 Are there opportunities for flexibility or waivers?

The regulation encourages manufacturers and importers to reformulate their coatings to reduce the amount of VOC in their coatings. However, the regulation is flexible in offering compliance options for both large and small businesses for which reformulation is not an immediate option. The exceedance fee and the tonnage exemption provisions are included in the final regulation to avoid unnecessary impacts upon manufacturers and to minimize impacts on the supply of coating products. The exceedance fee is intended to allow manufacturers and importers additional time to develop low-VOC formulations while providing an appropriate economic incentive to encourage reformulation. The tonnage exemption is intended to allow manufacturers and importers the flexibility to continue to market certain low-volume product lines where reformulation of a specialty product used for unique applications may not be cost-effective.

Manufacturers and importers whose coatings contain a portion of post-consumer coating have the option to calculate an adjusted VOC content, giving them credit for using recycled coatings. Use of recycled coatings is environmentally beneficial because it reduces the amount of waste from architectural coatings that would otherwise result from evaporation of VOC from unused coatings or of coatings sent to landfills or elsewhere. The EPA is providing this credit to encourage recycling of unused coatings.

4.6 Where do I go for further assistance?

To obtain more information or additional copies of this guide, call your State small business assistance program or your State or local air pollution control agency. Also, visit the EPA's Technology Transfer Network - Small Business Assistance Program web site at: **http://www.epa.gov/ttn/sbap** to get information on your State small business assistance program or to find this document and additional materials concerning this subject. Also, Appendix J of this guide lists various resources of information that may help you understand and comply with the architectural coatings regulation.

5.0 THE COMPLIANCE ASSURANCE PROCESS

After reading section 5, you should know how EPA will determine compliance, what happens if you or the EPA discovers noncompliance, and the legal status of this guide.

5.1 How will EPA determine compliance?

The EPA employs several approaches to monitor compliance with its environmental regulations, including both EPA-initiated and facility-initiated methods.

1. Inspections—The EPA may conduct periodic inspections at facilities subject to this regulation. Inspections may be initiated by disclosures to EPA, randomly selecting facilities or by a variety of targeting methods. Inspections may be used to monitor recordkeeping requirements and secure product samples. Inspections may also be conducted at brokers who import paints subject to this regulation.

2. Reporting—The EPA will monitor reports submitted by the facility including initial notification reports, tonnage exemption reports, recycled coating reports, and exceedance fees and reports. The facility may also be asked to demonstrate compliance with the VOC content requirements of the regulation by providing test results, calculations, and other related information.

3. Labeling—The EPA can review the coating container labels for labeling requirements such as the date of manufacture, thinning instructions, and VOC content.

4. Product Sampling—Samples may be obtained to determine whether products meet the VOC content limits. Samples of the products and labels may be reviewed at the manufacturer's site or from products in the marketplace.

5. Self Disclosure—Facilities have the primary responsibility for ensuring that they are in continuous compliance. The EPA encourages the facility to take advantage of EPA’s self-disclosure policies or small business policy. To aid the facility in determining whether it is in compliance, Section 4.1 of this guide includes a self-audit checklist.

5.2 If I discover a violation, how can I work with the EPA to correct it?

The EPA encourages self-disclosure of violations and has implemented two policies to meet this goal. These policies meet the objectives of Section 223 of the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) which provides for the reduction, and under some appropriate circumstances, the complete waiver of civil penalties for certain environmental violations.

The "Policy on Compliance Incentives for Small Businesses" (the Small Business Policy) applies to companies with 100 or fewer employees and provides penalty waivers or penalty reductions as incentives to participate in an on-site compliance assistance program and to conduct environmental self-audits to discover and correct violations. For more information on our Small Business Policy, you may visit our Internet site at: **http://es.epa.gov/oeca/smbusi.html**.

The "Incentives for Self-Policing: Disclosure, Correction and Prevention of Violations" policy (the Audit Policy) applies to businesses of all sizes that meet the applicability criteria and promptly disclose and correct violations. For more information on our Audit Policy, you may visit our Internet site at **http://es.epa.gov/oeca/auditpol.html, or http://es.epa.gov/oeca/apolguid.html**, which provides the audit policy interpretive guidance.

5.3 If EPA discovers a violation, what might be its response?

To maximize compliance, EPA implements a balanced program of compliance assistance, compliance incentives, and traditional law enforcement. The EPA knows that small businesses that must comply with complicated new statutes or regulations often want to do the right thing, but may lack the requisite knowledge, resources, or skills. Compliance assistance information and technical advice helps small businesses to understand and meet their environmental obligations. Compliance incentives, such as our Small Business Policy, encourage persons to voluntarily discover, disclose, and correct violations before they are identified by the government. The EPA's strong law enforcement program protects all of us by targeting persons who neither comply nor cooperate to address their problems.

The EPA uses a variety of methods to determine whether businesses are complying, including inspecting facilities, reviewing records and reports, and responding to citizen complaints. If EPA learns a person is violating the law, EPA may file an enforcement action seeking penalties of up to $27,500 per violation, per day. The proposed penalty in a given case will depend on many factors, including the number, length, and severity of the violations, the economic benefit obtained by the violator, and its ability to pay. The EPA has policies in place to ensure penalties are calculated fairly. These policies are available to the public. In addition, any company charged with a violation has the right to contest EPA's allegations and proposed penalty before an impartial judge or jury.

In summary, EPA recognizes that it can achieve the greatest possible environmental protection by encouraging small businesses to work with us to discover, disclose, and correct violations. That is why EPA has issued self-disclosure, small business, and small community policies to eliminate or reduce penalties for small and large entities which cooperate with EPA to address compliance problems. In addition, we've established compliance assistance centers to serve over a million small businesses. For more information on these and other EPA programs for small businesses, please contact EPA's Small Business Ombudsman, Karen Brown, at (202) 260-1390.

5.4 What is the legal status of this guide?

A judge can look at a compliance guide in determining what penalty is appropriate and reasonable, although the content of the guide cannot otherwise be reviewed by the court.

In this compliance guide, we have tried to make clear what you must do to comply with the applicable law and regulation, as required by SBREFA. We hope you find this presentation of regulatory requirements useful and the additional information helpful in reaching and maintaining compliance.

Following the steps set forth in this guidance generally should result in compliance with those aspects of the regulation that it covers. The EPA does not make any guarantee or assume any liability with respect to the use of any information or recommendations contained in this document. Regulated entities requiring additional information or advice should consult a qualified professional.

This guidance does not constitute rulemaking by the EPA, and may not be relied on to create a substantive or procedural right or benefit enforceable, at law or in equity, by any person. The EPA may take action at variance with this guidance and its internal procedures.

APPENDIX A

Final rule: National Volatile Organic Compound
Emission Standards for Architectural Coatings
(40 CFR part 59, subpart D, 63 FR 48848, September 11, 1998)

Final rule, corrections and amendments. National Volatile Organic Compound
Emissions Standards for Architectural Coatings; Correction
(40 CFR part 59, subpart D, 64 FR 34997, June 30, 1999)

To determine whether EPA has published further changes to this regulation,
browse the list of CFR sections affected at:

http://www.access.gpo/nara/lsa/browslsa.html

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 59

[AD–FRL–6149–7]

RIN 2060–AE55

National Volatile Organic Compound Emission Standards for Architectural Coatings

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national volatile organic compound (VOC) emission standards for architectural coatings pursuant to section 183(e) of the Clean Air Act (Act). This final rule is based on the Administrator's determination that VOC emissions from the use of architectural coatings have the potential to cause or contribute to ozone levels that violate the national ambient air quality standards (NAAQS) for ozone. Ozone is a major component of smog which causes negative health and environmental impacts when present in high concentrations at ground level. The final rule is estimated to reduce VOC emissions by 103,000 megagrams per year (Mg/yr) (113,500 tons per year [tpy]) by requiring manufacturers and importers to limit the VOC content of architectural coatings.

DATES: The effective date is September 11, 1998. The incorporation by reference of certain publications listed in the regulation is approved by the Director of the Federal Register as of September 11, 1998.

ADDRESSES: *Technical Support Documents.* The regulation promulgated today is supported by two background information documents (BID); one specific to the architectural coatings rule, and one that addresses comments on the study and Report to Congress under section 183(e). These documents are: the BID for the promulgated architectural coating standards, National Volatile Organic Compound Emission Standards for Architectural Coatings—Background for Promulgated Standards (Architectural Coatings BID); and the BID containing the Administrator's response to comments on the section 183(e) study and Report to Congress, Response to Comments on Section 183(e) Study and Report to Congress (183–BID). The Architectural Coatings BID contains a summary of the changes made to the standards since proposal, a summary of all the public comments on the standards, and the Administrator's response to the comments and the 183–BID contains a summary of all the public comments made on the section 183(e) study and Report to Congress and the list and schedule for regulation as well as the Administrator's response to the comments. Both documents may be obtained from the docket for this rulemaking and are also accessible through the Internet at http://www.epa.gov/ttn/oarpg/ramain.html; or from the United States Environmental Protection Agency Library (MD–35), Research Triangle Park, North Carolina 27711, telephone (919) 541–2777. Please refer to ''National Volatile Organic Compound Emission Standards for Architectural Coatings—Background for Promulgated Standards,'' EPA–453/R–98–006b, or ''Response to Comments on Section 183(e) Study and Report to Congress'' EPA–453/R–98–007.

Docket. Docket No. A–92–18, contains supporting information used in developing the promulgated standards. Docket No. A–94–65 contains information considered by the EPA in development of the consumer and commercial products study and the subsequent list and schedule for regulation. The dockets are available for public inspection and copying from 8:00 a.m. to 5:30 p.m. Monday through Friday, excluding legal holidays. The

dockets are located at the EPA's Air and Radiation Docket and Information Center, Waterside Mall, Room M1500, 1st Floor, 401 M Street, SW, Washington, DC 20460; telephone (202) 260–7548 or fax (202) 260–4400. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Ms. Ellen Ducey at (919) 541–5408, Coatings and Consumer Products Group, Emission Standards Division (MD–13), United States Environmental Protection Agency, Research Triangle Park, North Carolina 27711 (ducey.ellen@epa.gov). Any correspondence related to compliance with this rule must be submitted to the appropriate EPA Regional Office listed in § 59.409 of the rule.

SUPPLEMENTARY INFORMATION:

Regulated Entities. Entities potentially regulated by this action are manufacturers and importers of architectural coatings. Architectural coatings are coatings that are recommended for field application to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs. Regulated categories and entities include:

Category	Examples of regulated entities
Industry	Manufacturers (which includes packagers and repackagers) and importers of architectural coatings that are manufactured for sale or distribution in the United States, including all United States territories.
State/local/tribal governments.	State Departments of Transportation that manufacture their own coatings.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that the EPA is now aware could potentially be regulated by this action. Other types of entities not listed in this table could also be regulated. To determine whether your product is regulated by this action, you should carefully examine the applicability criteria in § 59.400 of the final rule. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

Judicial review. This section 183(e) rule for architectural coatings was proposed on June 25, 1996 (61 FR 32729). This notice promulgating a rule for architectural coatings constitutes final administrative action concerning that proposal. Under section 307(b)(1) of the Act, judicial review of this final rule is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by November 10, 1998. Under section 307(d)(7)(B) of the Act, only an objection to this rule which was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the Act, the requirements established by today's final action may not be challenged separately in any civil or criminal proceeding brought by the EPA to enforce these requirements.

Outline. The information presented in this preamble is organized as follows:

I. Background
  A. Purpose of Regulation
  B. Statutory and Regulatory Background
II. Summary of Standards
  A. Applicability
  B. Volatile Organic Compound Content Limits
  C. Exceedance Fee
  D. Tonnage Exemption
  E. Labeling
  F. Recordkeeping
  G. Reporting

H. Compliance Provisions
III. Summary of Considerations in Developing Standards
A. Basis of the Regulation
B. Stakeholder and Public Participation
IV. Summary of Impacts
A. Environmental Impacts
B. Energy Impacts
C. Cost and Economic Impacts
V. Significant Comments and Changes to Proposed Standards
A. National Rule versus Control Techniques Guidelines
B. Applicability and Regulated Entities
C. General Comments on Determination of Best Available Controls
D. Changes in Proposed Coating Categories
E. Addition of New Coating Categories
F. Category Overlap
G. Low Volume/Tonnage Exemption
H. Compliance Variance Provisions
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J. Labeling, Recordkeeping, and Reporting
K. Determination of Volatile Organic Compound Content
L. Compliance Date
M. Cost/Economic Impacts
N. Small Business Issues
O. Cost-Effectiveness
P. Future Study and Future Limits
Q. Administrative Provisions
VI. Administrative Requirements
A. Docket
B. Paperwork Reduction Act
C. Executive Order 12866
D. Executive Order 12875
E. Regulatory Flexibility Act/Small Business Regulatory Enforcement Fairness Act of 1996
F. Unfunded Mandates Reform Act of 1995
G. Submission to Congress and the General Accounting Office
H. National Technology Transfer and Advancement Act
I. Executive Order 13045

I. Background

A. Purpose of Regulation

Ground-level ozone, which is a major component of ''smog,'' is formed in the atmosphere by reactions of VOC and oxides of nitrogen (NO_X) in the presence of sunlight. The formation of ground-level ozone is a complex process that is affected by many variables.

Exposure to ground-level ozone is associated with a wide variety of human health effects, agricultural crop loss, and damage to forests and ecosystems. Acute health effects are induced by short-term exposures to ozone (observed at concentrations as low as 0.12 parts per million [ppm]), generally while individuals are engaged in moderate or heavy exertion, and by prolonged exposures to ozone (observed at concentrations as low as 0.08 ppm), typically while individuals are engaged in moderate exertion. Moderate exertion levels are more frequently experienced by individuals than heavy exertion levels. The acute health effects include respiratory symptoms, effects on exercise performance, increased airway responsiveness, increased susceptibility to respiratory infection, increased hospital admissions and emergency room visits, and pulmonary inflammation. Groups at increased risk of experiencing such effects include active children, outdoor workers, and others who regularly engage in outdoor activities and individuals with preexisting respiratory disease. Available information also suggests that long-term exposures to ozone may cause chronic health effects (e.g., structural damage to lung tissue and accelerated decline in baseline lung function).

In accordance with section 183(e) of the Act, the Administrator has determined that VOC emissions from the use of architectural coatings have the potential to contribute to ozone levels that violate the NAAQS for ozone. Under authority of section 183(e), the EPA conducted a study of the VOC emissions from consumer and commercial products to determine their potential to contribute to ozone levels which violate the NAAQS for ozone. Based on the results of the study, the EPA determined that the architectural coatings category accounts for about 9 percent of the emissions from all consumer and commercial products. It is one of the largest emission sources among the consumer and commercial products categories and in many States represents one of the largest identifiable sources of unregulated VOC emissions. Consequently, the EPA and many States consider the regulation of architectural coatings to be an important component of the overall approach to reducing those emissions that contribute to ozone nonattainment. The EPA's determination that VOC emissions from the use of architectural coatings have the potential to contribute to nonattainment of the ozone NAAQS and the decision to regulate architectural coatings are discussed in the preamble to the proposed rule (61 FR 32729), in the ''Consumer and Commercial Products Report to Congress'' (EPA–453/R–94–066–A), in the **Federal Register** notice announcing the schedule for regulation (60 FR 15264), and in a separate **Federal Register** document published today that constitutes final action on the EPA's listing of architectural coatings for regulation.

B. Statutory and Regulatory Background

1. Section 183(e)

In 1990, Congress enacted section 183(e) of the Act, establishing a new regulatory program for controlling VOC emissions from consumer and commercial products. Section 183(e) directs the Administrator to list, and schedule for regulation, categories of consumer and commercial products after completion of a study and report to Congress concerning the products and their potential to contribute to levels of ozone which violate the ozone NAAQS. A separate document in today's **Federal Register** contains a description of section 183(e) of the Act and contains a summary of significant public comments and the EPA responses regarding the section 183(e) study, the Report to Congress, and the list and schedule for regulation.

2. Regulatory Negotiation

In 1992, the EPA initiated a regulatory negotiation to address architectural coatings. The regulatory negotiation process is an alternative to the traditional approach to rulemaking. The members of the architectural coatings regulatory negotiation committee represented the affected industries, consumers, Federal agencies, State and local air pollution control agencies, environmental groups, and labor organizations. Regulatory negotiation meetings were held from October 1992 to February 1994. Despite negotiation efforts, the committee could not reach consensus on some key regulatory issues for developing the rule, and on September 23, 1994, the regulatory negotiation concluded without consensus. Therefore, the EPA initiated development of the architectural coatings rule through conventional rule development procedures. The EPA utilized data and information obtained from the regulatory negotiation to complement additional information gathered during the rule development. Specifically, the EPA took into consideration information on the volume, VOC content, and hazardous air pollutant (HAP) content of coatings produced in 1990 in the VOC Emissions Inventory Survey conducted by industry.

3. Relationship to State and Local Regulation of Architectural Coatings

Emissions from the use of architectural coatings are not currently regulated at the Federal level. Although a few States have had architectural coatings regulations in place for a number of years, many State and local areas are still seeking to obtain VOC reductions from this source category either from a national rule or from additional regulation at the State or local level.

Differing requirements of State and local architectural coating regulations have created administrative, technical,

and marketing problems for both large and small companies that market and distribute products in multiple States. Both large and small manufacturers have noted the additional burden associated with differences in State and local requirements. These industry representatives have noted that a Federal rule would provide some degree of consistency, predictability, and administrative ease for the industry.

States with ozone pollution problems are supportive of the EPA rulemakings that will assist them in their efforts toward achievement of the ozone standard. The National Governors' Association and Environmental Council of States (a group composed of environmental commissioners from each State), the State and Territorial Air Pollution Program Administrators and the Association of Local Air Pollution Control program Administrators, and the 37-State Ozone Transport Assessment Group (OTAG) all have urged the EPA to finalize national rules for architectural coatings. State representatives have long recommended that the EPA develop a national rule for this product category. In part, this is because a national rule will help reduce compliance problems associated with transportation of noncompliant coatings into nonattainment areas from neighboring areas and neighboring States.

Given the EPA's commitment to develop a national VOC rule for architectural coatings, 14 States currently are depending on anticipated reductions from the rule to meet a Clean Air Act requirement for State Implementation Plans (SIP) to achieve a 15-percent reduction in overall VOC emissions, which is required for areas with ozone pollution classed as moderate nonattainment or worse. Other States can use these emission reductions to meet Clean Air Act requirements for additional rate-of-progress plans required for 1999 and beyond. If the EPA failed to promulgate a Federal rule for architectural coatings, these States would need to make up the shortfall in emission reductions needed to achieve attainment through other regulations, which would likely target substantially more expensive reductions from local industries and businesses.

II. Summary of Standards

A. Applicability

The architectural coatings rule applies to manufacturers and importers of architectural coatings that are manufactured after September 13, 1999 for sale or distribution in the United States, including the District of Columbia and all United States territories. For architectural coatings registered under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*,) (FIFRA), the applicable date is March 10, 2000.

The regulated entity under this rule is the manufacturer or importer of a regulated architectural coating. The regulated entities include any manufacturers or importers that produce, package, or repackage architectural coatings for sale or distribution in the United States, including the District of Columbia and all United States territories. A person that repackages architectural coatings as part of a paint exchange and does not produce, package, or repackage any other architectural coatings for sale or distribution in the United States, is not included in the definition of manufacturer. Similarly, a person that repackages an architectural coating by transferring it from one container to another is not included in the definitions of importer and manufacturer, provided the VOC content of the coating is not altered and the coating is not sold or distributed to another party.

An architectural coating is defined in the rule as: ''a coating recommended for field application to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs.'' The definition of architectural coating excludes: ''adhesives and coatings recommended by the manufacturer or importer solely for shop applications or solely for application to non-stationary structures, such as airplanes, ships, boats, and railcars.''

Architectural coatings that are subject to the rule are divided into a number of coating categories, such as ''exterior flats'' or ''industrial maintenance coatings.'' These coating categories are defined in the rule for purposes of specifying the applicable emission limits. In determining if a coating is subject to this rule, a coating must first meet the general definition of an architectural coating.

The standards do not apply to the following:

(1) Coatings manufactured exclusively for sale or distribution outside the United States;

(2) Coatings manufactured prior to September 13, 1999;

(3) Coatings sold in nonrefillable aerosol containers;

(4) Coatings that are collected and redistributed at paint exchanges in accordance with this rule; and

(5) coatings sold in containers with a volume of 1 liter or less.

B. Volatile Organic Compound Content Limits

Manufacturers and importers must limit the VOC content of subject coatings to the VOC content levels presented in table 1 of this subpart, unless they utilize the exceedance fee or tonnage exemption provisions described below. These limits apply to the VOC content that would result after thinning a coating according to the manufacturer's maximum thinning recommendations. Each subject coating must be classified by the manufacturer or importer as belonging to at least one of the categories listed in table 1. Each category is defined in the rule's definitions section. If none of the specific category definitions applies to a coating, then the coating is included in either the flat or nonflat category, depending on its gloss level.

TABLE 1 OF SUBPART D.—VOLATILE ORGANIC COMPOUND (VOC) CONTENT LIMITS FOR ARCHITECTURAL COATINGS

[Unless otherwise specified, limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation excluding the volume of any water, exempt compounds, or colorant added to tint bases.]

Coating category	Grams per liter	Pounds per gallon[a]
Antenna coatings	530	4.4
Anti-fouling coatings	450	3.8
Anti-graffiti coatings	600	5.0
Bituminous coatings and mastics	500	4.2
Bond breakers	600	5.0
Calcimine recoater	475	4.0
Chalkboard resurfacers	450	3.8
Concrete curing compounds	350	2.9
Concrete curing and sealing compounds	700	5.8

TABLE 1 OF SUBPART D.—VOLATILE ORGANIC COMPOUND (VOC) CONTENT LIMITS FOR ARCHITECTURAL COATINGS—Continued

[Unless otherwise specified, limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation excluding the volume of any water, exempt compounds, or colorant added to tint bases.]

Coating category	Grams per liter	Pounds per gallon[a]
Concrete protective coatings	400	3.3
Concrete surface retarders	780	6.5
Conversion varnish	725	6.0
Dry fog coatings	400	3.3
Extreme high durability coatings	800	6.7
Faux finishing/glazing	700	5.8
Fire-retardant/resistive coatings:		
Clear	850	7.1
Opaque	450	3.8
Flat coatings:		
Exterior	250	2.1
Interior	250	2.1
Floor coatings	400	3.3
Flow coatings	650	5.4
Form release compounds	450	3.8
Graphic arts coatings (sign paints)	500	4.2
Heat reactive coatings	420	3.5
High temperature coatings	650	5.4
Impacted immersion coatings	780	6.5
Industrial maintenance coatings	450	3.8
Lacquers (including lacquer sanding sealers)	680	5.7
Magnesite cement coatings	600	5.0
Mastic texture coatings	300	2.5
Metallic pigmented coatings	500	4.2
Multi-colored coatings	580	4.8
Nonferrous ornamental metal lacquers and surface protectants	870	7.3
Nonflat coatings:		
Exterior	380	3.2
Interior	380	3.2
Nuclear coatings	450	3.8
Pretreatment wash primers	780	6.5
Primers and undercoaters	350	2.9
Quick-dry coatings:		
Enamels	450	3.8
Primers, sealers, and undercoaters	450	3.8
Repair and maintenance thermoplastic coatings	650	5.4
Roof coatings	250	2.1
Rust preventative coatings	400	3.3
Sanding sealers (other than lacquer sanding sealers)	550	4.6
Sealers (including interior clear wood sealers)	400	3.3
Shellacs:		
Clear	730	6.1
Opaque	550	4.6
Stains:		
Clear and semitransparent	550	4.6
Opaque	350	2.9
Low solids	[b]120	[b]1.0
Stain controllers	720	6.0
Swimming pool coatings	600	5.0
Thermoplastic rubber coatings and mastics	550	4.6
Traffic marking coatings	150	1.3
Varnishes	450	3.8
Waterproofing sealers and treatments	600	5.0
Wood preservatives:		
Below ground wood preservatives	550	4.6
Clear and semitransparent	550	4.6
Opaque	350	2.9
Low solids	[b]120	[b]1.0
Zone marking coatings	450	3.8

[a] English units are provided for information only. Enforcement of the rule will be based on the metric units.

[b] Units are grams of VOC per liter (pounds of VOC per gallon) of coating, including water and exempt compounds, thinned to the maximum thinning recommended by the manufacturer.

If a coating is marketed in more than one of the coating categories listed in table 1 of this subpart, the manufacturer or importer must comply with the lowest applicable VOC content limit, unless an exception is specified in

§ 59.402(c) of the rule. These exceptions were developed to clarify which VOC content limit applies in situations where inherent overlap exists between category definitions. For example, varnishes used on wood floors were not intended to be subject to the more stringent emission limit for floor coatings. Therefore, an exception paragraph is included in the rule stating that varnishes recommended for use on floors are subject to the VOC content limit for varnishes, and not the limit for floor coatings.

Manufacturers and importers of recycled coatings are given the compliance option of calculating an adjusted-VOC content. Manufacturers and importers of recycled architectural coatings are defined as those that collect, reprocess, and market coatings that contain a percentage of post-consumer coating. Such use is environmentally beneficial because it reduces the amount of waste from architectural coatings that would otherwise result from evaporation of VOC from unused coatings or of coatings sent to landfills or elsewhere. The adjusted-VOC content provides regulated entities some credit for the amount of post-consumer material contained in the coating. The EPA is providing this credit to encourage recycling of unused coatings. The adjusted-VOC content is determined by multiplying the percentage of post-consumer content of the coating by the VOC content of the recycled coating, which is then subtracted from the VOC content of the end product. An explicit equation for the calculation is given in the rule.

C. Exceedance Fee

The rule includes an exceedance fee compliance option. This is an economic incentive approach whereby manufacturers and importers may choose to comply with the rule by paying a fee in lieu of meeting the VOC content limits for their coating products. The fee is $0.0028 per gram ($2,500 per ton) of excess VOC. The fee is calculated using the amount of VOC in excess of the applicable VOC content limit. The exceedance fee is paid annually to the appropriate EPA Regional Office and is due no later than March 1 in the year following the calendar year in which the coating is manufactured or imported.

D. Tonnage Exemption

The final rule also includes a tonnage exemption that allows each manufacturer and importer to sell or distribute limited quantities of architectural coatings that do not comply with the VOC content limits and for which no exceedance fee is paid. The tonnage exemption can be used for multiple products, but the total mass of VOC contained in a single manufacturer's or importer's exempt coatings may not exceed the amounts in table 2. The total mass of VOC is calculated based on the volume of coatings manufactured or imported and the total VOC content of each of the coatings for which an exemption is claimed. To reiterate, the calculation is based on the total mass of VOC contained in all exempt coatings, not the difference between the VOC content of each coating and the applicable VOC content limit in the rule.

TABLE 2.—TONNAGE EXEMPTION

The total mass of VOC contained in all exempt coatings combined may not exceed	During the time period of
23 megagrams (25 tons) VOC.	September 13, 1999 through December 31, 2000.
18 megagrams (20 tons) VOC.	Calendar year 2001
9 megagrams (10 tons) VOC.	Calendar year 2002 and each year thereafter.

E. Labeling

For coatings complying with the VOC content limits in table 1 of this subpart, manufacturers and importers must provide the following information on the label or lid of each coating: (1) the date the coating was manufactured, or a code indicating this date (this information may alternatively be provided on the bottom of the can); (2) a statement of the manufacturer's recommendation regarding thinning of the coating (does not apply to thinning with water); and (3) either the VOC content of the coating in the container, or the VOC content limit from table 1 of the rule with which the coating must comply and with which it does comply. (Any coating for which the exceedance fee or tonnage exemption provision is being used must be labeled with its VOC content because it would not be in compliance with the VOC content limits in table 1 of this subpart.)

Industrial maintenance coatings must be labeled with one of several prescribed phrases indicating that the coating is not intended for general consumer use. For recycled coatings, manufacturers and importers must indicate the post-consumer coating content on the container label or lid.

F. Recordkeeping

There are no recordkeeping requirements for coatings complying with the VOC content limits in table 1 of this subpart. However, the rule does include recordkeeping requirements for compliance with the recycled coating, exceedance fee, and tonnage exemption provisions.

For recycled coatings, the manufacturer or importer must keep records of the volume of coatings received for recycling, the volume of coatings received that is unusable, the volume of virgin coatings used with recycled coatings, and the volume of final recycled coatings manufactured or imported. In addition, manufacturers and importers of recycled coatings must keep records of the calculation of adjusted-VOC contents.

For compliance with the exceedance fee provisions, manufacturers and importers must keep records on an annual basis for each coating of the VOC content, the VOC content in excess of the applicable limit, and the volume manufactured or imported. Manufacturers and importers must also keep records of the calculation of fees, the annual fee for each coating, and the total annual fee.

For the tonnage exemption, manufacturers and importers must keep records of the products claimed under the exemption, the VOC content and actual sales or distribution for each exempt product, and the total mass of VOC contained in all products claimed under the exemption.

All required records must be retained for a period of 3 years in a form suitable for inspection.

Although the retention of test data is not required by this rule, the EPA encourages facilities to keep any information resulting from either Method 24 or any other acceptable method to determine compliance. This information will help the EPA make a preliminary assessment of compliance for the coatings subject to this rule. In the absence of demonstrable indications of compliance, the EPA may require Method 24 testing by the facility in accordance with § 59.406(b).

G. Reporting

All manufacturers and importers of subject coatings must file an initial notification report listing the coating categories from table 1 of this subpart that they manufacture or import and the locations of facilities that manufacture architectural coatings in the United States. The initial notification report must be submitted no later than September 13, 1999 or 180 days after the date that the manufacturer or importer first manufactures or imports a subject coating, whichever is later.

In addition, if a manufacturer or importer uses a date coding system, an explanation of the coding system must be submitted with the initial report. Explanations of new codes must be filed within 30 days after their first use.

There are no reporting requirements beyond the initial notification and date code explanation for manufacturers and importers who meet the VOC content limits in table 1. There are additional reporting requirements for manufacturers and importers who choose to take advantage of optional provisions, including: (1) the calculation of an adjusted-VOC content for recycled coatings (based on post-consumer coating content); (2) the payment of the exceedance fee; and (3) the tonnage exemption. An annual report is required for each of these provisions.

H. Compliance Provisions

The rule specifies the procedure to determine the VOC content of coatings subject to the rule. Although the EPA has chosen Method 24 as the reference method for determining compliance with the VOC content requirements of this rule, it is not the exclusive method for determining compliance. The manufacturer or importer may also use a different analytical method than Method 24 (if it is approved by the Administrator on a case-by-case basis), formulation data, or any other reasonable means to determine the VOC content of coatings. However, the EPA may require a Method 24 analysis to be conducted, and if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern. The EPA can use other evidence as well to establish whether or not a manufacturer or importer is in compliance with the provisions of this rule.

III. Summary of Considerations in Developing Standards

A. Basis of the Regulation

Section 183(e) of the Act directs the EPA to regulate products using best available controls (BAC), and defines BAC as:

> the degree of emissions reduction the Administrator determines, on the basis of technological and economic feasibility, health, environmental, and energy impacts, is achievable through the application of the most effective equipment, measures, processes, methods, systems or techniques, including chemical reformulation, product or feedstock substitution, repackaging, and directions for use, consumption, storage, or disposal.

The statute thus empowers the EPA to examine a variety of considerations to use in determining the best means of obtaining VOC emission reductions from a given consumer or commercial product category. As discussed in the preamble to the proposed rule (61 FR 32737, June 25, 1996), the primary factors the EPA considered in determining BAC for architectural coatings were technological and economic feasibility, and environmental impacts.

Non-air environmental impacts (solid waste and water) and energy impacts are expected to be minimal and, therefore, do not vary significantly among various VOC control levels. With regard to health impacts, the EPA has concluded that reductions in VOC emissions and concomitant reductions in ozone will reduce health impacts of exposure to ozone.

For architectural coatings, the EPA determined that BAC is the degree of emission reduction achievable through a system of regulation that encourages product reformulation to meet the VOC content limits in table 1 of this subpart, provides an economic incentive (the exceedance fee option) to lower VOC content of coatings, and allows for limited exemption of coatings (the VOC tonnage exemption). The EPA concluded that for this product category, pollution prevention is the most effective means of achieving VOC emission reductions. In working to comply with State VOC rules over the past several years, the architectural coatings industry has established product reformulation as the most technologically and economically feasible strategy for reducing VOC emissions. Reformulation can consist of minor adjustments in coating VOC contents or larger adjustments involving a change in resin technology. The EPA considered many factors in evaluating the economic and technological feasibility of different VOC content levels and different degrees of reformulation. These factors included existing State and local VOC emission standards, coating VOC content and sales information, analysis of coating technologies, performance considerations, cost considerations, market impacts, and stakeholder input. In addition, the EPA considered the relative contribution of different coating types to overall VOC emissions from architectural coatings.

At proposal, the EPA requested comment on alternatives to the proposed VOC content limits that would provide flexibility, if additional time were needed or it was not cost-effective to develop a low-VOC formulation. Based on comments received, the EPA included in the final rule an exceedance fee (discussed in sections II.C and V.I) and an exemption for a certain tonnage of VOC content (discussed in sections II.D and V.G).

The final VOC content limits in conjunction with the exceedance fee and tonnage exemption reflect the EPA's determination of BAC and are based primarily on the 1990 VOC Emissions Inventory Survey, analysis of existing State rules for architectural coatings, data obtained from participants in the regulatory negotiation, and information submitted by coating manufacturers and other interested parties during the course of the rule development and public comment period.

B. Stakeholder and Public Participation

The EPA proposed the architectural coatings rule and published the preamble in the **Federal Register** on June 25, 1996 (61 FR 32729). The EPA placed the proposed regulatory text, BID, and Economic Impact Analysis (EIA) in a docket open to the public at that time and made them available to interested parties. The EPA solicited comments at the time of the proposal. To provide easier access by the public, the EPA subsequently published the proposed regulatory text in the **Federal Register** on September 3, 1996 (61 FR 46410) and extended the comment period from August 30 to September 30, 1996. The EPA again extended the comment period to November 4, 1996 (notice published at 61 FR 52735, October 8, 1996).

To provide interested persons the opportunity for oral presentation of data, views, or arguments concerning the proposed architectural coating rule, the EPA held a public hearing in Durham, North Carolina on July 30, 1996. Nineteen speakers presented oral testimony at this hearing. The EPA held another public meeting to discuss issues related to the impact of the proposed rule on small manufacturers in Rosemont, Illinois, on August 13, 1996. There were 77 persons who participated in the meeting, and 18 speakers presented oral testimony.

The EPA received over 200 comment letters on the proposed rule. Commenters included coating manufacturers and importers, State regulatory agencies, trade associations, environmental groups, the United States military, and others. The EPA has carefully considered the comments and has made changes to the proposed rule where determined by the Administrator to be appropriate. The most significant comments and responses are discussed in section V of this preamble. A detailed

discussion of all significant comments and responses on the rule itself can be found in the architectural coatings BID, which is referenced in the **ADDRESSES** section of this preamble.

A separate document in today's **Federal Register** contains a summary of public comments and the EPA's responses regarding the section 183(e) study, the Report to Congress, the list of consumer and commercial product categories selected for regulation, and the schedule for regulation.

IV. Summary of Impacts

A. Environmental Impacts

1. VOC Reductions

The standards will reduce nationwide emissions of VOC from architectural coating products by an estimated 103,000 Mg/yr (113,500 tpy). These reductions are compared to the 1990 baseline emissions estimate of 510,000 Mg/yr (561,000 tpy). This reduction equates to a 20-percent reduction, compared to the emissions that would have resulted in the absence of these standards.

2. Health Effects

Because VOC are precursors to ozone formation, the VOC reductions from architectural coatings will contribute to a decrease in adverse health effects that result from exposure to ground-level ozone. These health effects result from short-term or prolonged exposure to ground-level ozone and include respiratory symptoms, effects on exercise performance, increased airway responsiveness, increased susceptibility to respiratory infection, increased hospital admissions and emergency room visits, and pulmonary inflammation. Available information also suggests that long-term exposures to ozone may cause chronic health effects (e.g., structural damage to lung tissue and accelerated decline in baseline lung function).

3. Secondary Air, Water, and Solid Waste Impacts

No significant adverse secondary air, water, or solid waste impacts are anticipated from compliance with these standards. Generally, coating reformulation, a pollution prevention technique, will be used to comply with these standards. In cases where conversion from solventborne to waterborne coatings is the method used to achieve compliance, an increase in wastewater discharge may occur if waste from the manufacture of waterborne coatings is discharged by manufacturers to publicly owned treatment works. The provisions for recycling of coatings in the rule may potentially reduce the amount of coating discarded as solid waste.

The regulations do not impact existing product inventories. Products manufactured before the compliance deadline are not affected. Excluding existing product inventories from the regulations will eliminate any incremental solid waste increase due to discarded, unsold products. The new products are not expected to require any more packaging than existing products, and thus the volume of discarded packaging should not increase.

B. Energy Impacts

The EPA anticipates that there will be no increase in national annual energy usage as a result of this rule. The standards do not require the use of air pollution control devices, which can affect energy use.

C. Cost and Economic Impacts

Sixty-four percent of the products included in the 1990 industry survey meet the VOC content limits in this rule and, therefore, there will be no costs to reformulate these products. The manufacturer of an architectural coating that does not meet the VOC content limits in table 1 of this subpart, will be required to reformulate the product if it will continue to be marketed, unless the manufacturer chooses to use an alternative compliance mechanism such as the exceedance fee or tonnage exemption provisions. The EPA presumes that manufacturers will choose the option that is most advantageous to them, but each option imposes costs, some of which will be passed on to consumers in the form of moderately higher prices and some of which will be borne directly by the manufacturers.

The cost for reformulating noncompliant products depends on the level of effort required to develop a new product (e.g., research and development and market testing expenditures) and how these expenditures are incurred over time. Based on comments received at proposal and the original data presented at proposal, the EPA revised its estimate of the cost to reformulate a product from a lump-sum initial investment of $250,000 to $87,000 (in 1991 dollars), which is annualized to an upper bound value of $14,570 per reformulation (see Section V. M of this preamble for further discussion). Although variations are likely to exist, for purposes of this analysis, this reformulation cost estimate is assumed to be the same for all product types and variations, so the value is independent of VOC content and the annual sales volume of the product. Other costs and cost savings associated with reformulation are likely, but could not be quantified. These costs are discussed qualitatively in the EIA. Reformulation costs are direct costs imposed on manufacturers of noncompliant products. Based on public comments, the EPA found that in the traffic markings category, the user of the coating may have to modify technology or purchase new equipment to apply the coating. This additional cost is not considered a direct impact because it occurs as a result of restrictions on coating manufacturers, but the cost is borne by the user of the coating rather than the manufacturer. Nevertheless, the EPA examined the indirect impacts of this category because the changed equipment costs are so directly related to the change of formulation. The EPA estimates that changes in traffic marking equipment may cost up to $3 million annually (in 1991 dollars). For other regulated categories, it is not anticipated that new equipment or other indirect costs will be incurred to apply compliant coatings.

Based on the information above, implementation of this regulation is estimated to result in national annualized costs of approximately $25.6 million (in 1991 dollars). (For the benefit of readers, this value is equivalent to approximately $29 million in 1996 dollars.) This estimate includes $0.6 million in costs for manufacturers and importers that the EPA anticipates will take advantage of the alternative exceedance fee compliance provision. The rule does not impose monitoring requirements (and associated costs), but ensures compliance through recordkeeping, reporting, and labeling requirements. The annual cost for these requirements is expected to be approximately $2.5 million. Therefore, the EPA estimates the total cost associated with the rule to be $28 million per year (1991 dollars) (or $32 million in 1996 dollars). In comparison, the 1991 value of shipments for this industry was $6.3 billion. Thus, the estimated costs amount to roughly 0.4 percent of the baseline revenues for this industry.

The estimated cost-effectiveness of the rule is $270 per megagram ($250 per ton) of VOC emission reduction. This cost per megagram of VOC emission reduction makes the architectural coatings rule an economically efficient means of obtaining VOC emission reductions, when compared to the cost per megagram of reduction potentially available through other control measures. As a result of the costs discussed above, the EPA anticipates

that the average change in market prices and output across all market segments are minimal, with an average estimated impact of less than one-tenth of 1 percent of baseline values.

The EPA believes the estimates of total cost and associated economic impacts are conservatively high. Since the best available data on VOC content of architectural coatings is from 1990, and the final rule has VOC content requirements similar to State rules which have been enforced since 1990, the EPA believes the estimated number of reformulations and/or their reformulation cost that result from this action may be overstated in that the compliant products developed by manufacturers to comply with various State rules can be used to meet the requirements of the Federal rule. The EIA also takes a conservative approach to several assumptions to produce an upper bound estimate of social cost.

V. Significant Comments and Changes to Proposed Standards

A complete summary of public comments on the architectural coatings rule and the EPA's responses are presented in the Architectural Coatings BID, as referenced in the ''ADDRESSES'' section of this preamble. The EPA received many comments addressing a wide variety of issues in the proposed rule for architectural coatings. After careful consideration of these comments, the EPA has made a number of changes to the proposed rule. The major changes made to the rule since proposal include: (1) clarification of the definitions of ''architectural coating,'' ''coating,'' ''importer,'' ''manufacturer,'' and ''paint exchange,'; (2) addition of definitions for ''imported'' and ''manufactured,'; (3) clarification of which standards apply to overlapping coating categories; (4) changes to the definitions and VOC content limits for certain categories; (5) addition of certain new coating categories; (6) addition of the exceedance fee provision; (7) deletion of the variance provisions; (8) addition of an exemption for prescribed quantities of coatings (tonnage exemption); (9) addition of administrative provisions; and (10) reorganization and reformatting of the rule for clarity.

The following sections of the preamble discuss the most significant issues raised by commenters and the EPA's responses to them.

A. National Rule Versus Control Techniques Guidelines

The EPA requested comment on whether and how a CTG approach would be as effective as a national rule in reducing VOC emissions from architectural coatings in ozone nonattainment areas. Section 183(e) of the Act authorizes the Administrator to issue a CTG in lieu of a national rule if the CTG will be substantially as effective in reducing VOC emissions in ozone nonattainment areas.

Over 20 commenters stated that they support a national architectural coatings rule. Commenters who supported a national rule with VOC content limits stated that complying with a single uniform regulation would be less burdensome, and more cost-effective than complying with many different standards in different States. Commenters also stated that small manufacturers and importers are less likely to have the resources necessary to produce different lines of products to meet varying standards for different areas of the country. Furthermore, many commenters pointed out that coatings are widely distributed and easily transported from attainment areas to nonattainment areas. Therefore, regulating products only in nonattainment areas would be a less effective strategy, and a more difficult one to enforce.

Seven commenters stated that they support a CTG in lieu of a national rule. Commenters favoring a CTG generally contended that section 183(e) targets VOC emissions in nonattainment areas, and that a national rule is not warranted. The commenters stated that a CTG would be more appropriate since issuance of a CTG requires States to implement standards only in nonattainment areas. According to these commenters, allowing coatings manufactured or imported in attainment areas to remain unregulated would provide market niches for small manufacturers and importers. Some commenters also argued that consumers in attainment areas should not have to forego the alleged benefits of higher VOC content coatings.

Several commenters noted that, even with implementation of a national rule, States can promulgate more stringent standards. Therefore, even a national rule does not ensure uniform nationwide VOC standards. Some commenters urged cooperation and discussion between the EPA and States that consider implementing standards more stringent than the national rule.

The EPA has concluded that a national rule is the more effective approach for reducing emissions from architectural coatings for the following reasons. First, the EPA believes that a national rule is an appropriate means to reduce emissions from products that are, by their nature, easily transported across area boundaries, and many are widely distributed and are used by widely varied types of end-users. For many such products, the end-user may use them in different locations from day-to-day. Because the products themselves are easily transportable, a national rule would preempt opportunities for end-users to purchase such consumer and commercial products in attainment areas and then use them in nonattainment areas, thereby circumventing the regulations and undermining the decrease in VOC emissions in nonattainment areas. The EPA, therefore, believes that a national rule with applicability to products, regardless of where they are marketed, is a reasonable means to ensure that the regulations result in the requisite degree of VOC emission reduction.

Second, the EPA believes that national rules with nationwide applicability may help to mitigate the impact of ozone and ozone precursor transport across some area boundaries. Recent modeling performed by the OTAG and others suggests that in some circumstances VOC emitted outside nonattainment area boundaries can contribute to ozone pollution in nonattainment areas, for example, by traveling into neighboring nonattainment areas. The EPA has recognized the potential for VOC transport in the December 29, 1997, ''Guidance for Implementing the 1-hour Ozone and Pre-Existing PM_{10} NAAQS'' concerning credit for VOC emission reductions towards rate-of-progress requirements. The guidance indicates that the EPA may give credit for VOC reductions within 100 kilometers of nonattainment areas. In addition, the June 1997 recommendations made by OTAG supported the EPA's use of VOC regulations that apply to both nonattainment and attainment areas to implement section 183(e) of the Act for certain products. The particular product categories OTAG cited for national VOC regulations are automobile refinish coatings, consumer products, and architectural coatings. The EPA believes that regulation of products in at least some attainment areas is necessary to mitigate VOC emissions that have the potential to contribute to ozone nonattainment in accordance with section 183(e) of the Act.

Based on these considerations, and considerations of the effectiveness and enforceability of emission controls, the EPA has determined that a CTG for architectural coatings would not be substantially as effective as a national rule in reducing VOC emissions in ozone nonattainment areas.

A major trade association representing many architectural coating manufacturers provided comments supporting a national rule that applies to all areas as the most efficient regulatory mechanism from the perspective of marketing and distribution of products. In addition, comments from a number of small and large manufacturers favored a national rule to encourage uniformity in regulation from State to State, and thereby minimize significant costs and burdens associated with understanding and meeting differing State and local requirements.

The EPA also received some comments suggesting that a national rule apply only in nonattainment areas. The EPA believes that rules applicable only in nonattainment areas would be unnecessarily complex and burdensome for many regulated entities to comply with and for the EPA to administer. The potentially regulated entities under section 183(e) are the manufacturers, processors, wholesale distributors, or importers of consumer and commercial products. For these three product categories, EPA believes that regulations that would differentiate between products destined for attainment and nonattainment areas should adequately insure that only compliant products go to nonattainment areas. For such a rule to be effective, EPA believes that this would necessitate requiring regulated entities to track their products and control their distribution, sale, and ultimate destination for use to insure that only compliant products go to nonattainment areas. The EPA notes that for architectural coatings, regulated entities do not currently track or control distribution of their products once they sell them to retail distributors. Although the EPA recognizes that some product lines in some product categories may only be distributed regionally in areas that are already in attainment, the large majority of the product lines will be distributed nationally. Regulations targeted only at nonattainment areas could, thus, impose significant additional burdens upon regulated entities to achieve the goals of section 183(e).

By comparison, existing State regulations in some instances apply to a broader range of entities, including retail distributors and end-users. Given the limitations of section 183(e) as to regulated entities, the EPA believes that regulations applicable to both attainment areas and nonattainment areas is a reasonable means to ensure use of complying products where necessary, while avoiding potentially burdensome impacts and less reliable mechanisms to achieve the goals of section 183(e).

The EPA expects a national VOC rule for architectural coatings to encourage uniformity in requirements across the country. Many States may choose to rely on the EPA rule rather than adopt their own requirements. The EPA's consideration of this factor, however, is not meant to imply that it would be inappropriate for States to develop more stringent levels of controls where necessary to attain the ozone standard. Some States, particularly those with long-standing and significant nonattainment problems, may need additional emission reductions to achieve attainment of the NAAQS and may need to adopt or maintain more stringent requirements for consumer products like architectural coatings in order to help reach attainment of the ozone NAAQS. The final rule has been amended to include provisions in § 59.410, State authority, to clarify that States are not restricted by this rule in establishing and enforcing their own additional standards and limits.

The consultation provisions of section 183(e)(9) of the Act are designed to promote uniformity in such cases where States or local areas need to adopt requirements other than those promulgated by the EPA. Section 183(e)(9) requires the EPA to provide relevant information and studies requested by any State. The EPA expects such consultation and cooperation to result in States developing options for regulation that will be compatible with other States and with the national standards. The EPA considers a national VOC rule an important element in promoting consistency among architectural coating standards.

B. Applicability and Regulated Entities

1. Subject Coatings

The EPA received several comments requesting clarification regarding the definition of ''coating'' and what particular coatings are subject to the architectural coatings rule. The EPA has modified the definition of ''coating'' so that it no longer defines a coating as an application that creates a film when applied. The revised definition states that a coating is a ''material applied onto or impregnated into'' a substrate. The EPA did not intend to limit rule applicability to film-building products.

Commenters questioned whether coatings recommended for both architectural uses and non-architectural uses would be subject to the rule. The commenters also questioned whether shop-applied and factory-applied coatings would be subject. Additional commenters requested clarification as to whether adhesives are subject to the rule.

The architectural coatings rule applies to coatings ''recommended for field application to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs.'' Therefore, the rule does not apply to coatings that are marketed solely for shop application, such as in a manufacturing setting, or coatings marketed solely for application to non-stationary structures, such as aircraft and ships. However, a coating that is recommended by the manufacturer or importer for use as an architectural coating is subject to the architectural coatings rule even if the coating is also recommended for non-architectural uses. The fact that a coating regulated by the architectural coatings rule may also be subject to other rules with different requirements does not alter the manufacturer's or importer's obligation to meet the requirements of the architectural coatings rule.

The EPA did not intend to regulate adhesives of any kind in the architectural coatings rule. The EPA intends to regulate industrial adhesives as a separate product category under section 183(e) authority.

To clarify the EPA's intent regarding what products are covered by this final rule, the definition of architectural coating has been revised to exclude adhesives and coatings recommended solely for shop application or for application to non-stationary structures. For additional clarity, definitions of ''adhesive'' and ''shop application'' have also been added to the final rule.

The EPA has added definitions of ''imported'' and ''manufactured'' to the final rule to clarify the point at which an architectural coating becomes subject to the requirements in the rule. The final rule also includes additional language in the definitions of ''importer'' and ''manufacturer'' to clarify that all divisions of a company, subsidiaries, and parent companies are considered to be a single importer or manufacturer for the purpose of this rule.

2. Regulation of Processors

Section 183(e)(1)(C) of the Act allows the regulation of processors of consumer and commercial products. For the proposed architectural coatings rule, the EPA considered regulating processors as well as manufacturers and importers. ''Processors'' would be defined as individuals who add organic thinner to coatings in a commercial or industrial setting at the point of application. The EPA's concern was to provide a means

to enforce against thinning of coatings beyond manufacturers' recommendations. Thus, the EPA considered a provision to prohibit an applicator from using organic solvents to thin a coating beyond the manufacturer's recommendation.

In the proposal preamble (61 FR 32737), the EPA requested comment on the possible regulation of processors under the architectural coatings rule. Commenters generally opposed the regulation of applicators, arguing that: (1) over-thinning is not likely to occur since the proposed VOC content limits are reasonable; (2) rules promulgated under section 183(e) of the Act are not intended to apply to end-users or applicators; and (3) restrictions on thinning at the point of application would be difficult to enforce. The commenters stated that the term ''processors'' was intended to mean entities that repackage coating materials or further enhance finished products before they are offered for sale to end-users.

The final rule does not include processors as a regulated entity. The EPA believes that end-users' compliance with thinning restrictions for architectural coatings would be difficult to enforce in practice. Instead, the EPA has determined that it will be more effective to guard against excessive VOC emissions from thinning by taking into account the amount of thinning in advance. Thus, the final limits are expressed as VOC content of coating ''thinned to the manufacturer's maximum recommendation.'' The EPA believes that these limits provide adequate assurance that compliant coatings will be manufactured to perform optimally with recommended thinning. Regulation of processors would not add significantly to the effectiveness of the rule.

C. General Comments on Determination of Best Available Controls

Many commenters provided general comments on the overall stringency of the VOC content limits in the proposed rule. One group of commenters, composed mainly of manufacturers and trade organizations representing coating users and manufacturers, stated that the VOC content limits in the proposed rule represent BAC and are technologically and economically achievable. One of these commenters, representing a national association of coating manufacturers, stated that the proposal recognized the need for solventborne coatings in certain specialty areas, as well as in some more general usage categories, and adequately addressed the fact that the same coating must be able to perform in all regions and climates of the United States. Another commenter, representing a national association of coating users, stated that the proposed limits fit squarely within current technologies and are consistent with various existing State regulations. And finally, a commenter representing another national trade association of coating users, stated that the proposed table of VOC content limits will not significantly increase construction costs and will not appreciably reduce coating performance.

A second group of commenters, mainly composed of individual State regulatory agencies, organizations of State and regional regulatory agencies, and environmental groups, stated that they did not support the VOC content limits in the rule because they believe they are too lenient. Two of the commenters, representing environmental groups, contended that the EPA's BAC determination did not include consideration of lower VOC coatings that have been developed since 1990. Several of the commenters cited the existence of more stringent State and local architectural coating regulations that have been in place for many years as evidence that the proposed limits do not represent BAC. Several of the commenters added that the proposed rule falls short of State VOC reduction goals and may result in the States adopting more stringent control measures for this source category and for other source categories. The majority of the commenters in this group supported an alternative, more stringent, table of VOC content limits submitted by one of the commenters. (The commenter also suggested a second phase of limits that would take effect in the future. For comments and responses regarding the suggested second phase of limits, see section V.P of this preamble). The alternative table contains more stringent limits for several categories and would achieve a 30-percent emission reduction (calculated on a solids basis). The more stringent VOC content limits in the table are based on the 1989 California Air Resources Board Suggested Control Measure.

Finally, a third group of commenters, composed mainly of coating manufacturers, did not support the limits in the rule because they believe they are too stringent. These commenters stated that low-VOC products (i.e., products meeting the proposed standards) do not perform as well as higher-VOC (non-compliant) products. These commenters claimed that low-VOC coatings are too thick and require considerable thinning to apply, are less durable and require more frequent repainting, and exhibit poor gloss properties. Two of the commenters explained that these performance problems could result in more emissions, rather than less. Two of the commenters stated that available paint raw materials are not adequate to reformulate every non-compliant coating the paint industry offers and still meet customer performance requirements. One commenter stated that the proposed rule will require a massive reformulation of products in the paint and coating industry. The commenter claimed that some organizations were supporting lower limits based on improper data or based on environmental conditions that do not represent circumstances in other areas.

The EPA believes that the final rule represents BAC. Best available control is ''the degree of emissions reduction that the Administrator determines on the basis of technological and economic feasibility, health, and energy impacts, is achievable.'' In developing the rule, the EPA considered many factors in evaluating the economic and technological feasibility of different VOC content levels and different degrees of product reformulation. These factors included: (1) limits in State/local regulations; (2) coating VOC content and sales information; (3) performance considerations; (4) cost considerations; and (5) market impacts.

The sources of information for these factors included: (1) pre-proposal letters; (2) the 1992 industry survey (collected 1990 data); (3) public comments on the proposed rule; (4) follow-up discussions with commenters to gather additional technical information; (5) State/local regulations and pre-proposal discussions with State/local regulators; (6) input from coating manufacturers and other stakeholders; and (7) EPA expertise. Considering all these factors, the EPA concluded that the VOC content limits in table 1 of the rule, along with the exceedance fee provisions and the tonnage exemption, represent BAC for architectural coatings. The EPA's process for developing BAC was described in the proposal preamble (61 FR 32737) and is further discussed in the following paragraphs.

Technical Feasibility and Coating Performance Issues

Throughout development of this rule, there has been debate among stakeholders over the degree to which the VOC content in architectural coatings can be reduced and on the performance characteristics of low-VOC coatings. The term ''performance'' refers to the coating qualities that are

acceptable to consumers and that maximize the interval required between repainting. Performance is particularly difficult to assess. As discussed in the preamble to the proposed rule (61 FR 32738), these acceptable qualities can vary significantly depending on the consumer and the coating category. There is no consensus within the architectural coatings industry on standards by which to evaluate acceptable coating performance. Therefore, the EPA requested comment on the technological feasibility of the limits in the proposed table of standards and on performance issues. The proposal requested documentation, tests, and factual evidence to support or refute claims about performance and the technological feasibility of low-VOC systems.

The EPA evaluated all data that were submitted by commenters pertaining to the feasibility of the rule and sought additional information that was reasonably available. In evaluating the degree of emission reduction that represents BAC, the EPA took into consideration that these requirements would apply to all areas of the country and to all manufacturers and importers of architectural coatings within a specific time frame (i.e., approximately 1 year from promulgation). Based on the public comments received, a number of changes were made to the proposed rule. These changes are discussed in section 2.2.4 of the BID (Coating Categories and VOC Content Limits). In some cases, commenters claimed that the rule is not feasible or does not represent BAC, but provided no data to support the general claim. In such cases, the EPA sought additional information that was reasonably available and considered the comments in the context of the overall BAC decision, but often found no basis for making substantive changes to the proposed rule.

Relationship of BAC to State and Local Regulations

State and local regulations were one of the primary factors used by the EPA to develop BAC. As stated in the proposal preamble (61 FR 32737), State and local architectural coating requirements were used prior to proposal as a starting point in determining ''what categories and associated VOC limits might constitute the degree of emissions reduction that represents BAC.'' After proposal, the EPA used State and local architectural coating requirements as a primary factor in the evaluation of public comments on the proposed VOC content limits.

However, the EPA does not agree with commenters who believe that, at a minimum, BAC for the national rule should be equivalent to or more stringent than the lowest emission limits that exist in any State regulation (as presented in a table of standards by one commenter). In the development of a national rule under section 183(e), the EPA has the obligation to determine that the emission limits are technologically and economically feasible on a national scale. State and local VOC limits are based on coating performance under the local meteorological conditions and patterns of coating demand, some of which may be very different than in other locations. Moreover, based on local air quality and existing regulatory programs, a State or local agency may set rules based on a balancing of technological, economic, and environmental factors that might differ from the balance appropriate for a national rule.

Therefore, the EPA departed from the State and local requirements where other factors, such as information on VOC content and sales, performance, costs, and market effects indicated that the limits were not technologically or economically feasible on a national scale.

The Role of the Exceedance Fee and Tonnage Exemption in BAC

While the EPA believes that the technology exists to meet the limits in table 1 of this subpart, some manufacturers may need more time beyond the compliance deadline to obtain the necessary technology. Still other manufacturers may find that reformulation of some of their specialty products that are produced in low volume is not cost-effective. The exceedance fee and tonnage exemption provisions were included in the final rule to minimize impacts on the supply of coating products and to avoid unnecessary impacts upon small manufacturers. The exceedance fee (discussed in section 2.4 of the BID) is intended to allow manufacturers and importers additional time to develop low-VOC formulations while providing an appropriate economic incentive to encourage reformulation. The tonnage exemption (see section 2.2.1.2 of the BID) is intended to allow manufacturers and importers the flexibility to continue to market certain low-volume product lines where reformulation of a specialty product used for unique applications may not be cost-effective. The EPA anticipates that use of the tonnage exemption and exceedance fee will reduce the potential VOC emission reductions of the rule by only a small percentage and that foregoing this portion of the reductions to achieve other objectives of the BAC analysis is an appropriate balancing of the relevant factors to achieve BAC reductions. The EPA believes that all available data indicate that the system of regulation adopted in the final rule, consisting of VOC content limits, an exceedance fee provision, and a tonnage exemption, reflects BAC for the architectural coatings category.

Consideration of New Low-VOC Coatings

The EPA recognizes that the 1992 industry survey that the EPA used as one of the factors for developing BAC collected 1990 data. Although the data in this survey are now 7 years old, they still represent the most complete set of data for the architectural coatings industry (the survey captured approximately 75 percent of the coating volume). In addition, the industry survey was only one of the many factors used in determining BAC. Information on advances since 1990 were obtained from over 300 pre-proposal letters, over 200 public comment letters, over 40 follow-up telephone calls, and information obtained from State regulatory agencies. The EPA believes that the final rule represents BAC based on the survey database and other data available to the EPA.

The EPA acknowledges that there are coating technologies in existence with VOC contents lower than those listed in table 1. However, section 183(e) of the Act does not require the EPA to set BAC at the level of the lowest-VOC product. It requires that the EPA determine BAC based on ''the degree of emissions reduction that the Administrator determines on the basis of technological and economic feasibility, health, and energy impacts, is achievable.'' To determine whether a more stringent rule would meet the criteria for BAC, the EPA would need to undertake additional study of the recent technological developments for the architectural coatings category. As discussed in section 2.6 of the Architectural Coatings BID (see **ADDRESSES** section of this preamble), such an additional study is under consideration. However, the EPA does not believe it would be appropriate to delay issuing this rule to await the results of that additional study.

D. Changes in Proposed Coating Categories

Several commenters addressed the selection of the coating categories to which the rule applies and the VOC content limits for specific categories. In response to these comments, the EPA has modified the definitions of several

of the proposed categories and has added seven new coating categories. In addition, the EPA has modified the proposed VOC content limits for several categories based on information provided by commenters. This section of the preamble discusses the changes made to the requirements for the proposed coating categories. (The new categories are described in section V.E below.) A detailed discussion of all of the comments and responses pertaining to the proposed coating categories and their VOC content limits is contained in section 2.2.4.3 of the Architectural Coatings BID (see **ADDRESSES** section of this preamble).

Some commenters suggested changes and clarifications to the proposed category definitions. In response to these comments, the EPA has changed the definitions of a number of the coating categories. The purpose of these changes is to clarify which particular coatings are included in these categories.

There were also many requests to revise the VOC content limits in the proposed rule. The EPA contacted many of the commenters, most of whom were coating manufacturers, to obtain additional information in order to evaluate these requests more fully. Based upon consideration of the public comments and additional information obtained since proposal, the EPA has changed the VOC content limits where deemed appropriate. In addition, the final rule provides a tonnage exemption and an exceedance fee option. These provisions provide flexible compliance options that accommodate the need for higher VOC contents in unique or niche products, and in limited-use products. The significant comments and changes made with regard to the VOC content limits are discussed in the following paragraphs. The EPA's rationale for each of these issues is explained more fully in the Architectural Coatings BID (see **ADDRESSES** section of this preamble).

Roof Coatings and Bituminous Coatings and Mastics

One commenter, a national trade association of roof coating manufacturers, supported the proposed VOC content limits for roof coatings (250 grams per liter (g/l)) and for bituminous coatings and mastics (500 g/l), and the inclusion of all bituminous coatings in the bituminous coatings and mastics category. Another commenter suggested reducing the VOC content limit for bituminous coatings and mastics from 500 g/l to 350 g/l. A third commenter suggested adopting one roof coating category that includes bituminous materials at a VOC content limit of 300 g/l, consistent with State architectural coating rules. This commenter argued that the proposed rule permitted bituminous roofing materials to comply with a less stringent limit (500 g/l) than other roofing materials (250 g/l) and that this discrepancy afforded an unfair competitive advantage to the bituminous roofing products.

The EPA reviewed its basis for establishing the proposed category for bituminous coatings and mastics and VOC content limit of 500 g/l and has decided to retain this category and limit in the final rule. The EPA reviewed information submitted by a national trade association comprised of 60 bituminous and nonbituminous coatings manufacturers and suppliers, before proposal (Docket Item No. II–D–56), regarding the composition, specialized manufacture, performance, and use limitations of these coatings. According to this information, a significant portion of these coatings are needed for repair and maintenance of existing roofs as well as for installing new roofing systems. The trade association pointed out that waterborne bituminous coatings and mastics are not practical in almost all of the applications where solventborne bituminous coatings and mastics are used and that coating performance comparisons between waterborne and solventborne bituminous coatings and mastics range from good to very poor, depending on conditions. Another national trade association for roofing contractors, which has over 3,000 members represented in all 50 States, argued that there is no viable alternative to solventborne bituminous coatings in many circumstances and pointed to bituminous primers as an example of this. According to this trade association, if the VOC content limit were reduced by any significant amount in these primers, the adhesion properties, the application process, and the life of the roof would suffer dramatically. Therefore, in order to satisfy performance requirements of bituminous coatings and mastics nationwide, the EPA has retained this category with a VOC content limit of 500 g/l in the final rule.

With respect to the comments on the separate category for roof coatings, the EPA has decided to retain the category as proposed. Although there are several State architectural coating rules that have a VOC content limit of 300 g/l for roof coatings, the EPA believes that the national Roof Coatings Manufacturers Association's support (Docket Item No. IV–D–181) of the proposed VOC content limit for roof coatings at 250 g/l provides persuasive evidence that this limit is achievable nationwide. Therefore, the EPA has retained the VOC content limit of 250 g/l for roof coatings in the final rule.

Concrete Curing Compounds

Several commenters commented on the proposed VOC content limit of 350 g/l for concrete curing compounds, which are used predominantly in highway construction. Seven commenters stated that the proposed limit for concrete curing compounds is achievable based on existing technology, and one of these commenters maintained that the limit could be lowered to 300 g/l. On the other hand, one commenter took issue with the achievability and performance at the proposed limit of 350 g/l. The latter commenter suggested a VOC content limit of 625 g/l for this category, arguing that the proposed limit would eliminate most concrete curing membranes from the market, and that many companies do not sell curing compounds in States that have the 350 g/l limit.

In addition to consideration of these comments, the EPA reviewed the VOC content limits for this category in State rules. Several States, including Arizona, California, Massachusetts, New Jersey, and New York have had a VOC content limit of 350 g/l for concrete curing compounds for several years. The availability of compliant products in these States suggests that the limits are achievable, notwithstanding that not all manufacturers have chosen to market in those States. Based on the information provided by the commenters in favor of the proposed limits and upon the existing State rules, the EPA has concluded that the proposed VOC content limit of 350 g/l for concrete curing compounds is technologically achievable and has retained this limit in the final rule.

Graphic Arts Coatings

Two commenters indicated concern about the performance of shop-applied graphic arts coatings at the proposed VOC content limit of 500 g/l. One commenter's specific concerns with coatings at this level included difficulty in achieving variation in gloss levels, variation in the required drying times in the drying room (implying shop-applied coatings), need for greater application amounts, and higher costs. Graphic arts coatings recommended by the manufacturer solely for shop applications are not required to meet the 500 g/l VOC content limit. As discussed earlier, the EPA has revised the definition of architectural coating to

clarify that coatings recommended by the manufacturer solely for shop application are not subject to the rule. In addition, the definition of graphic arts coatings has been modified by removing the reference to in-shop coatings, and a definition of ''shop application'' has been added to the rule.

Based on a review of the 1990 VOC emission inventory survey and State architectural coating rules, the EPA determined that the 500 g/l VOC content limit for field-applied graphic arts coatings should not be changed.

Shellac—Clear

Two commenters requested that the EPA raise the VOC content limit for clear shellac from the proposed level of 650 g/l to 730 g/l. The commenters requested the higher level to accommodate the degree of thinning required for certain uses of shellac to meet performance specifications. According to information provided by one commenter, the elevated cost and limited availability of shellac (referring to secretions of the lac beetle) minimize the potential use of this product.

Based on a review of State architectural coating rules, which limit clear shellac VOC content to 730 g/l, and the information provided by the commenters, the EPA has raised the VOC content limit for clear shellac from 650 g/l to 730 g/l.

Nuclear Coatings

Four commenters objected to the proposed 420 g/l VOC content limit for nuclear coatings, in light of the 450 g/l limit for industrial maintenance coatings. The commenters pointed out that nuclear coatings must meet more exacting performance specifications (set by the Nuclear Regulatory Commission) than industrial maintenance coatings and, therefore, should not be subject to a more stringent VOC content limit. One commenter was also concerned that the proposed limit offered no flexibility for cold weather thinning as provided in the Shipbuilding and Ship Repair (Surface Coating) National Emission Standards for Hazardous Air Pollutants (NESHAP) for this category.

The EPA agrees that the nuclear coatings category VOC content limit should not be more stringent than the VOC content limit for industrial maintenance coatings since nuclear coatings are subject to some of the same extreme environmental conditions as industrial maintenance coatings, and must also meet further specifications and rigorous requirements of the Nuclear Regulatory Commission. The nuclear coatings category is intended to include coatings manufactured for use at nuclear facilities to ensure operational safety, and the definition requires that these coatings meet various testing requirements. The EPA expects that a limited amount of coatings will be affected by this change due to the various testing requirements to qualify for classification in this category and the limited number of nuclear facilities where such coatings are used. Also, as pointed out in the proposal preamble (61 FR 32739), this is one of 17 specialty coating categories that did not appear in existing State architectural coating rules, and no data were collected in the 1990 VOC emissions inventory survey. In consideration of performance specifications for this category and the need to allow for thinning, the EPA has raised the VOC content limit for the nuclear coatings category to 450 g/l. This limit is the same as the limit for industrial maintenance coatings.

Antifouling Coatings

Two commenters requested a higher VOC content limit for the antifouling coating category (400 g/l proposed), and one of these commenters specifically requested that the EPA increase the level to 450 g/l. One of the commenters indicated that antifouling architectural coatings are generally not applied at fixed installations where painting conditions are more easily controlled, and that a thinning allowance should be included to accommodate application of the coating in cold weather.

The EPA agrees with the commenters that the limit for antifouling coatings should be raised to allow for cold weather thinning. Also, similar to nuclear coatings, these coatings are subject to some of the same extreme environmental conditions as industrial maintenance coatings and must meet other rigorous requirements, such as those under the FIFRA. Moreover, this is one of 17 specialty coating categories that did not appear in existing State architectural coating rules, and no data were collected in the 1990 VOC emissions inventory survey. Therefore, the EPA believes a low volume of coatings will be affected by a change to the proposed limit. The final rule specifies a VOC content limit of 450 g/l for this category.

Floor Coatings

One commenter suggested that the EPA either add an exemption paragraph to clarify that floor coatings that meet the definition for industrial maintenance coatings are subject to the industrial maintenance coating VOC content limit of 450 g/l or specify that the floor coating category applies to floor coatings intended for residential use. The commenter believed that high performance floor coatings cannot achieve the 400 g/l VOC level proposed for floor coatings. Although the commenter reportedly has developed lower-performing systems that meet the 400 g/l level, the commenter stated that they are not acceptable for all applications.

Two commenters recommended that opaque floor paint be regulated at a 400 g/l VOC level. However, one of these commenters requested clarification of whether the floor coating category included clear floor finishes, such as varnishes.

The EPA has retained the floor coatings category, with a modified definition, and VOC content limit of 400 g/l as proposed. The floor coatings category includes opaque coatings that have a high degree of abrasion resistance that are formulated for application to flooring, including but not limited to decks, porches, and steps in a residential setting. The EPA did not intend to include floor coatings that meet the definition of industrial maintenance coatings under the floor coating category. The definition of floor coating has been changed to specify that it applies to floor coatings intended for use in a residential setting. Thus, floor coatings that meet the definition of industrial maintenance coatings are subject to only the industrial maintenance coating category limit of 450 g/l.

Based on information from commenters, the EPA agrees that opaque floor coatings should be subject to the 400 g/l limit as proposed. However, clear varnishes that may be recommended for use as floor coatings are subject to the VOC content limit of 450 g/l for clear varnishes. An exception paragraph has been included in § 59.402 of the rule to clarify this category overlap.

Waterproofing Sealers and Treatments

Eight commenters provided assessments of the achievability of the proposed VOC content limit for waterproofing sealers and treatments. Five commenters suggested that the EPA raise the VOC content limit, and two commenters suggested that the EPA lower it. One commenter maintained that there is no need to distinguish between clear and opaque waterproofing sealers and treatments (600 g/l and 400 g/l, respectively) in the rule since many opaque sealers penetrate the substrate and perform the same function as clear sealers. This manufacturer requested a VOC content limit of 700 g/l for all waterproofing sealers and treatments and explained that this level would still

require reformulation of existing technologies. Another manufacturer has reported that it has not been successful in reformulating to meet the 600 g/l level for clear waterproofing sealers and treatments. On the other hand, one manufacturer strongly encouraged the EPA to adopt a lower VOC content limit of 350 g/l applicable to both clear and opaque waterproofing sealers and treatments based on the VOC content of its products, which are available now in the marketplace. Another commenter agreed that the proposed levels for waterproofing sealers are technologically and economically feasible.

Based on evaluation of the comments and a review of survey data and State architectural coating regulations, the EPA has combined the clear and opaque waterproofing treatment sealer categories into one category with a VOC content limit of 600 g/l. The EPA agrees that there is no need to distinguish between clear and opaque waterproofing sealers and treatments since many opaque sealers penetrate the substrate and perform the same function as clear sealers. The EPA believes that, based on information provided by these commenters/manufacturers, the appropriate limit for this combined category is 600 g/l. Before proposal, industry representatives (Docket Item No. III–B–1) argued that multipurpose waterproofing sealers at 400 g/l do not meet minimum performance criteria for clear waterproofing sealers (that is, 60-percent water repellency for wood and 1 percent or less water absorption for brick). The representatives stated that 400 g/l products are high-solids products that may leave an oily residue or cause darkening of the surfaces to which they are applied and, thus, product performance may not meet industry standards. Combining clear and opaque waterproofing treatment sealers into one category is consistent with all existing State rules, which do not divide the category into clear and opaque waterproofing sealers and treatments. The State architectural coating VOC content limits for waterproofing sealers and treatments are either 400 g/l (for example, Arizona and California) or 600 g/l (Massachusetts, New Jersey, and New York).

E. Addition of New Coating Categories

The EPA received requests to establish 20 new coating categories in the final rule. In response to these comments, the EPA has established seven new categories: (1) calcimine recoaters; (2) concrete surface retarders; (3) concrete curing and sealing compounds; (4) conversion varnishes; (5) zone markings; (6) faux finishing/glazing; and (7) stain controllers. The EPA also evaluated requests, but did not establish new categories, for the following coatings: (1) adhesion promoters; (2) asbestos and lead-based paint encapsulation; (3) concrete/masonry conditioners; (4) porcelain repair coatings; (5) marine/architectural coatings; (6) alkali-resistant primers; (7) tung oil finishes; (8) lacquer stains; (9) elastomeric high performance industrial finishes; (10) low solids coatings; (11) oil-modified urethanes; (12) thermoplastic (treatment) sealers; and (13) zinc-rich coatings. In general, new categories were not established for these coatings because the EPA determined that it is technologically and economically feasible for coating manufacturers and importers to achieve compliance with the rule. Further discussion of the rationale for the EPA's decisions on the new categories is contained in section 2.2.4.2 of the Architectural Coatings BID referenced under the **ADDRESSES** section of this preamble.

In general, the EPA considered creation of new categories if commenters submitted information supporting higher VOC content limits for such products than the otherwise applicable limits. The EPA considered the data submitted by commenters and obtained all reasonably available additional data to evaluate these requests. In cases where the EPA concluded that the proposed emission limits were not achievable, the EPA established a separate category with an appropriate emission limit. The following is a discussion of the rationale for each of the new coating categories and its VOC content limit.

Calcimine Recoaters

Under the proposed standards, calcimine recoaters would have been subject to the VOC content limit for interior flat coatings (250 g/l). However, several commenters stated that calcimine recoaters have a higher VOC content of 475 g/l, cannot be reformulated, are low-volume coatings, and serve a unique function of recoating water soluble calcimine paints. These paints are used in Victorian and Early American homes, especially on ceilings. Due to their low density, calcimine recoaters do not disbond the existing calcimine ceiling coatings, as conventional (250 g/l VOC) high-solids flat alkyd paints would tend to do. If a calcimine recoater is not used, the only alternative is to remove the existing coating, which is labor-intensive and expensive. Because these low-volume coatings reportedly cannot be reformulated, their composition is unique, and there is no substitute for these products, the EPA has added a separate category for calcimine recoater products to the rule with a VOC content limit of 475 g/l.

Concrete Curing and Sealing Compounds

Under the proposed rule, these coatings would be subject to the 350 g/l VOC content limit for concrete curing compounds. However, commenters presented information not previously considered by the EPA demonstrating that compounds designed for curing and sealing, as opposed to those designed for curing only, have different technical specifications that make it difficult to achieve the 350 g/l level. Concrete curing and sealing compounds function as longer term sealers that provide protection, aesthetic benefits, and durability in addition to curing. Commenters pointed out that there are separate American Society for Testing and Materials (ASTM) methods available for each of these categories and that ASTM Committee experts and at least two government agencies consider them distinct categories with different performance requirements.

Through follow-up phone calls with several concrete curing and sealing coating manufacturers, the EPA confirmed that concrete curing and sealing products are typically sold at levels much higher than 350 g/l. While waterborne products below 350 g/l are available, some industry representatives cited drawbacks such as poor low-temperature performance and stability. Since these products must often be used in low-temperature environments, the EPA agrees that the VOC content limit should reflect this usage. Therefore, the final rule includes a new category for concrete curing and sealing compounds. Based on an analysis of VOC content and sales data for these products, the EPA has established the VOC content limit at 700 g/l.

Concrete Surface Retarders

Concrete surface retarders do not fall within any of the proposed categories except the general category for interior flat coatings with a VOC content limit of 250 g/l. These products are generally used in a manufacturing setting at a precast facility, but a small volume of products are field-applied. Commenters argued that these products cannot meet the 250 g/l level and, furthermore, that they are not coatings and should not be subject to the rule. However, they requested a VOC content limit of 780 g/l if the EPA regulated these products.

The EPA has concluded that concrete surface retarders meet the rule's definition of a ''coating.'' Concrete surface retarders that are recommended by the manufacturer for use in the field at job sites are, therefore, subject to the rule. When retarders are recommended by the manufacturer solely for use in a manufacturing setting, such as at a precast facility, which is the typical situation, they are not subject to the rule. The EPA determined that concrete surface retarders that are used in the field at the actual job location are specialized, low-volume coatings used in limited circumstances, and there is no lower VOC content substitute for the function of these products. Therefore, the EPA has included a separate category for these products in the final rule, with a VOC content limit of 780 g/l as requested by the commenters.

Zone Marking Coatings

Under the proposed rule, zone marking coatings were subject to the 150 g/l VOC content limit for traffic marking coatings. Zone marking coatings are those used to mark surfaces such as parking lots, driveways, sidewalks, and airport runways; they are generally applied by small commercial applicators. In contrast, traffic marking coatings are applied to streets and highways and are usually applied by large contractors or State Departments of Transportation. The commenters noted two issues associated with meeting the 150 g/l content limit for zone marking coatings. First, the 150 g/l content limit could only be met with waterborne coatings, which require different application equipment than solventborne coatings. Small applicators would be disproportionately impacted by the cost of acquiring the new equipment that is compatible with waterborne zone marking coatings. Secondly, the commenters asserted that waterborne zone marking coatings do not dry or cure properly during high humidity or low temperatures, conditions under which they must sometimes be applied.

After consideration of these comments, the EPA has added a separate category for zone marking coatings and has established the VOC content limit at 450 g/l. This level allows the use of solventborne coatings. However, the new category applies only to zone marking coatings sold in containers of 5 gallons or less. Available information reveals that State Departments of Transportation buy traffic marking coatings in larger than 5 gallon containers. Thus, this size restriction should limit the use of zone marking coatings to applications smaller than those of general traffic marking coatings intended for use on public roads and highways. Zone marking coatings sold in larger containers fall within the traffic marking coatings category and are subject to the 150 g/l limit. The establishment of this category allows the use of solventborne coatings by small applicators and under adverse drying and curing conditions.

Conversion Varnishes

Conversion varnishes are specialty products used by contractors for wood floor finishing. Under the proposed rule, these coatings would have been subject to the 450 g/l VOC content limit for varnishes. Commenters argued that conversion varnishes cannot be reformulated to meet the 450 g/l level, and that they have unique chemical formulation and performance specifications, compared to other varnishes, (i.e., appearance and proven durability). Furthermore, the commenters noted that only three companies manufacture conversion varnishes and that they market them only to licensed wood flooring contractors, thereby implying that these are specialty coatings deserving different standards.

In response to these comments, the final rule includes a new category for conversion varnishes with a VOC content limit of 725 g/l. Due to the chemical make-up of these products, manufacturers reportedly have been unable to reformulate to meet the 450 g/l level for varnishes. The EPA believes that the category comprises a well-defined coating technology that is limited, due to its chemical formulation, to the applications for which it is intended. Several wood flooring contractors' comments support the performance arguments made by the manufacturers. The EPA determined that the VOC content limit of 725 g/l is the lowest level achievable based on analysis of currently available products.

The EPA has added a definition for this category to the rule. The category definition was developed from information provided by two of the manufacturers.

Faux Finishing/Glazing

Under the proposed rule, faux finishing/glazing coatings were subject to the VOC content limit of 380 g/l for nonflat interior coatings. Faux finishing/glazing coatings include waterborne acrylic finishes and other waterborne products with miscible VOC that are designed to retard drying time. One commenter stated that these products provide open time required for wet-in-wet techniques, such as faux wood grain, faux marble, and simulated aging, which require the finish to remain wet for an extended period of time.

The commenter stated that, based on formulation including water, the calculated VOC content of these coatings can range up to 340 g/l. However, because the products are waterborne, the VOC ''less water'' calculation results in a range up to 700 g/l. The commenter stated that the VOC content limit for a similar category (Japan/faux finishing coatings) has been proposed by California's South Coast Air Quality Management District (SCAQMD) at 700 g/l. The commenter stated that, to date, there has not been an identifiable way to reformulate these products to achieve a lower VOC while maintaining the characteristics required for acceptable use.

Upon review and evaluation of available information, the EPA has determined that creating a separate category for faux finishing/glazing with a VOC content limit of 700 g/l is warranted. According to the commenter, there are no competing compliant products on the market. Despite 2 years of reported reformulation efforts, this coating cannot meet the proposed VOC content limit of 380 g/l for nonflat interior coatings. The EPA notes that this specialty coating category is low volume and that the foregone VOC emission reductions that may result from setting a higher limit for this category should be limited.

Stain Controllers

Under the proposed rule, stain controllers were subject to the VOC content limit of 400g/l for sealers. ''Stain controllers'' (also called ''wood conditioners'' or ''prestains'') are products that are applied to soft woods before applying a stain to prevent uneven penetration or blotching of the stain by filling those pores where excess penetration would occur. One commenter asserted that these products cannot achieve the 400 g/l level for sealers. According to the commenter, after 3 years of reformulation efforts, they have concluded that it is technologically infeasible to reformulate stain controllers to the proposed 400 g/l VOC content limit. The current VOC content of the commenter's products is 714 g/l. According to the commenter, the 400 g/l level for sealers would force a very high solids content, which would make these products unfit for use as prestains. The commenter asserted that, in order to be effective, stain controllers must have a very low solids content because excessive solids will overload the texture of the substrate so that the wood will not properly accept the stain.

Water cannot be added to these products because they are used almost exclusively to treat interior fine wood and contact with water would produce an undesirable grain-raising effect in the wood. Stain controllers are low-volume, specialized products that are important to the consumer and have a minimal effect on air quality. The commenter asserted that about 97 percent of total sales for these products are already exempt under the small container exemptions in regulated areas.

After review and evaluation of these comments and follow-up information provided by the commenter, the EPA has determined that a new category for stain controllers with a VOC content limit of 720 g/l is warranted. This is a specialized, limited use product that is important to consumers, and the EPA believes that the additional emissions from this low-volume coating would be negligible. According to the commenter, reformulation attempts during the last 3 years have been unsuccessful, and the commenter considers it technologically infeasible to reformulate stain controllers to achieve the proposed VOC content limit of 400 g/l for sealers (the category the commenter's coating would be subject to under the proposed rule). According to the commenter, there are competing waterbased products meeting the proposed limit on the market, but there are performance problems with these coatings. The EPA believes that this is an example of a low-volume, specialty niche coating for which it may not be cost-effective for the manufacturer to continue reformulation attempts. Therefore, the final rule contains a separate category for stain controllers.

F. Category Overlap

Many commenters expressed concern about the VOC content limit that applies to coatings that fall into more than one category. The proposed rule stated that if a manufacturer made the representation that a coating was suitable for use in more than one category, then the coating must comply with the VOC limit for the category with the most restrictive limit. Commenters objected that a coating may be ''suitable'' for many uses, even though not intended by the manufacturer for those uses. Coatings could potentially be used in ways for which they were never intended and, thus, be subject to unduly restrictive VOC content limits.

The EPA agrees with the commenters and has reworded the provisions as suggested by the commenters. In the final rule, if the manufacturer or importer makes any representation that indicates that the coating ''meets the definition'' of more than one coating category, then the most restrictive limit applies. The EPA has removed the phrase ''may be suitable for use'' from the rule so that the manufacturer or importer is not responsible to meet the limits of other categories if consumers choose to use them for purposes not recommended by the manufacturer or importer. However, if a manufacturer or importer indicates that a coating may be suitable for uses like coatings in other categories, the EPA will consider this a representation that requires the coating to meet the most restrictive applicable limit. Thus, determination of the applicable category and VOC content limit is based on a comparison between the technical criteria in the rule's definitions and the coating manufacturer's or importer's representations.

The proposed rule also included exceptions for seven types of coatings to the requirement that the most restrictive limit always applies. The EPA recognizes that these seven coatings potentially meet the definition of more than one category of coating, but cannot meet the more restrictive limit. For these exceptions, the rule explicitly specifies that the less restrictive limit applies. Commenters suggested additional instances of overlap that might also warrant special exceptions. After considering the information presented by these commenters, the EPA has included further exceptions, in addition to the proposed exceptions, to the most restrictive limit provision. The EPA has added the following exceptions: (1) anti-graffiti coatings, high temperature coatings, impacted immersion coatings, thermoplastic rubber coatings and mastics, repair and maintenance thermoplastic coatings, pretreatment wash primers, and flow coatings are not required to meet the VOC content limit for industrial maintenance coatings; (2) industrial maintenance coatings are not required to meet the VOC content limit for primers and undercoaters, sealers, or mastic texture coatings; (3) varnishes and conversion varnishes used as floor coatings are not required to meet the VOC content limit for floor coatings; (4) sanding sealers are not required to meet the VOC content limit for quick-dry sealers; (5) waterproofing sealers and treatment coatings are not required to meet the VOC content limit for quick-dry sealers; (6) quick-dry primers, sealers, and undercoaters are not required to meet the VOC content limit for primers and undercoaters; (7) nonferrous ornamental metal lacquers and surface protectants are not required to meet the VOC content limit for lacquers; and (8) antenna coatings are not required to meet the VOC content limit for industrial maintenance coatings or primers. These exceptions are discussed more fully in section 2.2.3.14 of the Architectural Coatings BID (see **ADDRESSES** section of this preamble).

G. Low Volume/Tonnage Exemption

In the preamble to the proposed rule, the EPA presented the concept of an exemption for coatings produced in low volumes and requested comment on this potential provision. The EPA described this exemption as a compliance option under which, ''any manufacturer or importer may request an exemption from the VOC levels in table 1 of this subpart for specialized coating products that are manufactured or imported in quantities less than a specified number of gallons per year.'' Twenty-one commenters provided comments on an exemption for coatings produced in low volumes.

In general, commenters in favor of the exemption pointed out that it would mitigate the impact of the rule on small manufacturers for which costs of reformulation would be more significant, and would prevent the elimination of specialty products for niche markets that could not easily be reformulated. Commenters opposed to the concept of a low-volume exemption generally argued that it would create a loophole allowing continued manufacture of noncompliant coatings and that in the aggregate such emissions would be significant.

The EPA considered these comments and concluded that some type of exemption is needed to help ensure the continued availability of niche products, to mitigate potential impacts on small manufacturers, and to enhance the economic feasibility of the rule. The exemption in the final rule is based on VOC tonnage rather than on production volume, the concept presented at proposal. This approach continues to accommodate the needs of small manufacturers, niche markets, and specialty products, as did the proposed low-volume exemptions, but it more effectively limits the VOC emissions resulting from the exemption in response to comments received on the proposal.

Under the tonnage exemption, each manufacturer can exempt a volume of coatings that contains no more than a specified total mass of VOC for all coatings included in the exemption (see table 2 in section II.B, Summary of Standards). The EPA has designed the tonnage limits to exempt no more than

1.5 to 2 percent of the total expected emission reductions from all architectural coatings. In addition, the EPA has structured the tonnage exemption to decrease over time, thereby decreasing the aggregate VOC emissions in a staggered fashion to provide additional compliance flexibility. The EPA believes that it is appropriate to provide the exemption in this manner for the dual purpose of preserving niche products and of providing greater initial assistance to manufacturers as they reformulate their products. The EPA believes that limiting the exemption in this fashion will address the concerns of commenters who viewed the low-volume exemption as a potential loophole that would allow significant aggregate excess VOC emissions. The EPA expects that the 9 Mg/yr (10 tpy) exemption that goes into effect in the third year will help to preserve niche products and to provide adequate flexibility for unforeseen future needs while effectively limiting emissions due to the exemption. In addition, the EPA expects that the initial tonnage exemption of 23 Mg (25 tons) for the time period from September 13, 1999 through December 31, 2000, will allow manufacturers to exempt one to three 27,000 liter (7,100 gallon) product lines, depending on the VOC content, thereby meeting the functional intent of the originally proposed low-volume exemption.

The rule provides that the manufacturer or importer will calculate emissions from exempt coatings by multiplying the total sales volume in liters by the ''in the can'' VOC content of the coating in grams of VOC per liter of coating, including any water or exempt compounds. The ''in the can'' VOC content must include consideration of the maximum thinning recommended by the manufacturer. The manufacturer or importer may exempt any combination of different coatings as long as the total VOC tonnage from these coatings does not exceed the limit for the tonnage exemption. In addition, the manufacturer or importer may choose to combine the exceedance fee provision and the VOC tonnage exemption for one or more coatings.

For example, under this exemption, in the time period from September 13, 1999 through December 31, 2000, a manufacturer could exempt 38,300 liters (10,000 gallons) of a 600 g/l [5 pounds per gallon (lb/gal)] coating.

$$\left(\frac{600\text{ g VOC}}{1}\times 38{,}300\ 1\right)\div\frac{1\times 10^{6}\text{ g}}{\text{mg}}=23\text{ mg VOC}$$

Alternatively, a manufacturer could exempt 18,939 liters (5,000 gallons) of an 800 g/l (6.67 lb/gal) coating plus 13,731 liters (3,625 gallons) of a 550 g/l (4.58 lb/gal) coating.

$$\left[\left(\frac{800\text{ g VOC}}{1}\times 18{,}939\ 1\right)+\left(\frac{550\text{ g VOC}}{1}\times 13{,}731\ 1\right)\right]\div\frac{1\times 10^{6}\text{ g}}{\text{mg}}=23\text{ mg VOC}$$

This exemption differs from the low-volume exemption in the proposal preamble in three ways. First, the exemption is on a ''per manufacturer'' basis rather than a ''per product'' basis. This change was necessary due to the difficulty in defining a ''product'' and the potential for abuse in designating products for exemption. Second, the exemption level is based on megagrams of VOC rather than liters of coating. Using VOC tonnage as the basis for the exemption places an upper bound on the emission reductions that are lost through this exemption while still accommodating the needs for which it was intended. Third, the total quantity of the exemption reduces over time. The EPA intends for the ratcheting down of the tonnage exemption over time to encourage regulated entities using the exemption to continue to reduce the VOC content of their coatings.

The EPA has concluded that the exemption, as structured in the final rule, provides benefits in terms of flexibility, mitigation of impacts for small manufacturers, and continuation of specialized niche products that justify the EPA in foregoing the small percentage of overall potential VOC reduction lost through the exemption. Furthermore, the EPA has concluded that the creation of the tonnage exemption is consistent with the EPA's explicit discretion and authority to create the appropriate system or systems of regulation in accordance with section 183(e)(4) of the Act.

H. Compliance Variance Provisions

In the proposed rule, the EPA included a variance provision allowing manufacturers and importers of architectural coatings to obtain additional time to comply. To obtain a variance, applicants would have had to demonstrate that, for reasons beyond their reasonable control, they could not comply with the requirements of the rule. The EPA envisioned the proposed variance provision as a benefit primarily for small businesses that might need extra time to develop new technologies.

Several commenters addressed the variance provisions. Those who supported the provisions noted that a variance would provide the needed extra time to come into compliance. Those opposed to the variance generally argued that it was not sufficiently protective of the environment. In addition, even the commenters in favor of the variance provision stated that the requirements for applying for a variance were too burdensome, and that small businesses would be particularly impacted by the burden associated with the application process. Many of these commenters stated that exceedance fee provisions are a more effective way to accommodate the need for compliance flexibility yet still encourage reductions of VOC emissions.

Based upon the comments received, the EPA has not included the variance provision in the final rule. It is evident to the EPA that a variance process may not provide the intended compliance flexibility, especially for small manufacturers. Even though the EPA intended the proposed variance requirements to be the minimum necessary to justify and approve a coating variance, the EPA recognizes that the requirements may have been burdensome, particularly for small manufacturers with limited or no regulatory compliance staff. It is also possible that the variance provision could create an uneven playing field because small businesses would not have the resources needed to pursue

this option, thereby putting small businesses at a disadvantage compared to large businesses.

Moreover, with the tonnage exemption and exceedance fee provisions included in the final rule, the EPA has concluded that a compliance date variance is not necessary. The EPA believes that these alternative provisions provide even greater flexibility than the variance provision and are less burdensome to regulated entities. Both of these compliance options are automatically available to all regulated entities and, therefore, do not involve complex application and approval processes. These compliance options require only the limited recordkeeping and reporting necessary for the EPA to ensure compliance.

The EPA anticipates that regulated entities will use the tonnage exemption for low-volume products that require 2 to 3 years to reformulate, or for extremely low-volume products that cannot be reformulated in the foreseeable future. The exceedance fee option, described more fully below, is also designed to give manufacturers additional time to develop lower VOC technologies, which are already used for similar coatings by other manufacturers, where necessary. This compliance option allows regulated entities to continue to sell coatings that exceed the VOC content limits, provided that they pay an exceedance fee.

Need for Long-term, Universal Variance Procedure

Several commenters, including a national trade association, recommended a provision in the rule for a long-term variance procedure for new products. The commenters expressed concern that new and innovative products may not fit into the coating categories that define particular coating technologies, and will therefore, by default, be subject to the VOC content limits for the general flat or nonflat categories. Since the VOC content limits for these default categories are among the most stringent, the commenters suggested provisions that would allow manufacturers up to 5 years to develop and commercialize innovative coating technologies under an extended variance. The commenters argued that a long-term variance would protect manufacturers who operate mainly in unique or niche markets and whose access to newer technologies may be limited.

The EPA has determined that such a variance procedure is not warranted, given the other provisions in the final architectural coatings rule. The EPA has included compliance provisions in the final rule that it believes will allow for the development of new technology. The tonnage exemption and exceedance fee option in the final rule create such additional compliance flexibility. In the event that coatings manufacturers in the future develop specialized categories of coatings for uses not now foreseeable, they could notify the EPA if they believe a new coating category is needed. The EPA could then assess the appropriateness of such a category.

I. Exceedance Fee Option

The EPA received a total of 27 comments on the exceedance fee provision presented in the proposal preamble. About half of the commenters supported this option and half opposed it. Under this provision, manufacturers and importers have the option of paying a fee, based on the extent to which a coating's VOC content exceeds the applicable VOC content limit instead of meeting the limit listed in table 1 of this subpart. The fee is calculated by: (1) determining the difference between the coating's actual VOC content and the allowed VOC content (in grams of VOC per liter of coating), (2) multiplying this difference by the fee rate of $0.0028 per gram of excess VOC per liter of coating, and (3) multiplying the resulting product by the volume of the coating manufactured or imported during the reporting period. The resulting dollar amount is owed by the manufacturer or importer as a fee. After careful evaluation of all of the comments and discussions with the Small Business Administration, the Administrator has decided to include this compliance option in the final rule for several reasons. First, the exceedance fee provision will provide transition time over and above the tonnage exemption provision for those manufacturers that may need additional time to obtain or develop lower VOC technologies. The exceedance fee provision is significantly less burdensome than the proposed compliance variance provision, which the EPA has not retained in the final rule (see discussion in section V.H of this preamble). Second, the exceedance fee provides long-term flexibility and a less costly compliance option for manufacturers who sell very low volume, specialty coatings where the cost of reformulation may be prohibitive compared to the potential profit on low volume products. Thus, these important specialty products will continue to be available to consumers. Third, contrary to some comments received, the EPA believes that the higher costs resulting from the exceedance fees can encourage the development of innovative technology, such as high-performance products with lower VOC content, thus reducing VOC content to the limits in table 1 for many coatings.

With regard to some commenters' concerns about enforcement of the exceedance fee, the recordkeeping and reporting requirements in the rule will ensure compliance with this option. The final rule requires manufacturers and importers to maintain records and submit annual reports to the EPA if they wish to exercise their option to use the exceedance fee. Any violations of the recordkeeping and reporting or any other requirements of the rule could result in enforcement actions and the possibility of penalties.

There were various questions and opinions from several commenters regarding the level of the fee. The EPA considered several factors in setting the fee level. Specifically, the EPA has set the fee level so that it would not be advantageous for most manufacturers and importers merely to opt for the fee in lieu of reformulating large volume products, which generate a disproportionately large share of emissions. At the same time, the EPA has sought to set the fee at a level that will provide flexibility for producers of small volume or specialty products to keep products on the market. Clearly, these are competing considerations, but they are not mutually exclusive. In fact, the EIA conducted by the EPA suggests that manufacturers of a large number of coatings may opt for the fee (as a lower-cost compliance option to reformulation or product withdrawal). However, the total sales volumes of these products are uniformly small and, thus, their contribution to total market output (and emission reductions) is relatively small. The fee level also provides incentive for fee-paying firms to reduce VOC content on the margin, as this will reduce the amount of fee they must pay. The EPA has concluded that imposition of the fee is an appropriate mechanism to encourage development of lower-VOC content products while at the same time preserving specialty niche products and mitigating the impact on small regulated entities. The level of the fee reflects the EPA's attempt to balance the intent to encourage reformulation without mandating that products be priced out of the market. The EPA believes that this is consistent with its authority to use economic incentives as part of the system of regulation as contemplated by section 183(e)(4) of the Act.

J. Labeling, Recordkeeping, and Reporting

A number of commenters requested more flexible labeling requirements to reduce the compliance burden. After

consideration of these comments, the EPA has determined that several labeling requirements can be adjusted to provide more flexibility without adversely affecting their usefulness. First, the EPA has provided greater flexibility by allowing the date of manufacture or date code to appear either on the bottom of cans or on the labels or lids. Second, the EPA has clarified the VOC content labeling requirement. These provisions allow manufacturers two options; they may label the coating with either: (1) the VOC content of the coating, including recommended thinning and considering fluctuations in VOC content that may occur in the manufacturing process, or (2) the applicable VOC content limit for the type coating as listed in table 1 of the rule. The second option is allowed only if the VOC content of the coating does not exceed the applicable VOC content limit (i.e., it is not available for coatings complying by exercise of the exceedance fee or tonnage exemption provisions). Third, the final rule includes a more flexible labeling requirement for industrial maintenance coatings. Manufacturers may choose from the following phrases for labeling industrial maintenance coatings:

(1) For industrial use only;
(2) For professional use only;
(3) Not for residential use;
(4) Not intended for residential use; or
(5) This product is intended for use under the following condition(s): (list of each condition from the definition of industrial maintenance coating that applies.)

The proposal preamble requested comment on the inclusion of labeling requirements for coating coverage information and an educational statement about the role of VOC emissions from coatings in ozone formation. Based on comments received concerning coverage information, the EPA determined that coating coverage is so variable, depending on the coating and the substrate being coated, that the information would be of minimal benefit. Upon consideration of comments regarding the educational statement, the EPA concluded that an outreach program would just as effectively educate consumers on the role of VOC emissions in the formation of ozone and on the reasons why ground-level ozone is undesirable. Thus, the final rule does not require the proposed coverage information and educational statements.

K. Determination of Volatile Organic Compound Content

Four commenters expressed concern that Method 24 (40 CFR part 60, appendix A) would not provide reliable results in certain circumstances, such as for waterborne coatings, and requested that the EPA allow the use of alternative tests in lieu of Method 24. The requests included methods to test for acetone content, acid content, water content, and for testing coatings that cure via chemical reactions that are quenched by the dilution solvent used in Method 24. Two commenters also requested that the EPA accept compliance demonstrations based on theoretical formula calculations or formula batch card loading information and documentation.

The EPA believes that Method 24 provides consistent, reliable results when determining the VOC content of architectural coatings. Specifically regarding concerns about Method 24's reliability for determining the VOC content of waterborne coatings, the EPA believes that Method 24 is the best currently available compliance method for low-VOC solvent content (high water content or waterborne) coatings. For waterborne coatings, VOC content is determined indirectly using methods that determine nonvolatile matter content and water content. The VOC content is assumed to be what is unaccounted for by these two fractions. The EPA acknowledges that the inherent imprecision of indirectly determining the VOC content of such coatings by this method necessitates an adjustment of the analytical results. Such adjustments must be based on confidence limits calculated from the precision statement established for Method 24. The precision adjustment procedure is incorporated in Method 24. Therefore, the final rule specifies that Method 24 is to be used for determining the VOC content of coatings subject to the rule. However, in response to comments received and consistent with other coating regulations established by the EPA in the past, the final rule does provide that other means may be used to determine VOC content. Nevertheless, the rule also provides that the Administrator may request at any time that the coating manufacturer or importer conduct a Method 24 test for the purpose of demonstrating compliance with the rule. If there are any inconsistencies between Method 24 test results and other means of determining VOC content, the Method 24 results will govern. The rule also provides an option for the Administrator to approve, on a case-by-case basis, alternative methods of determining the VOC content of coatings if they are demonstrated to the Administrator's satisfaction to provide results satisfactory for determining compliance. Such alternative methods could include procedures for testing for acetone, acid content, and water content, procedures for coatings that are chemically-cured, and procedures for using formulations and batch processing data for adjusting or determining VOC content.

L. Compliance Date

At proposal, the EPA requested comment on the appropriate compliance deadline for the rule. Commenters expressed a range of opinions regarding the appropriate compliance date. Commenters who supported a compliance period of up to 12 months stated that this amount of time was necessary to adjust formulations, reprint labels, adjust inventories, use up existing label stock, and conduct research and development. Some commenters stated that the compliance period should be greater than 1 year to allow adequate time for developing, performance testing, and marketing new products. Some State Agencies requested no further delay in the compliance date, since States are depending upon the architectural coatings rule for VOC reduction credit under their SIP. The latter commenters stated that extending the compliance date would have an adverse impact on the environment, would lead to additional State regulations, and is unnecessary given the current state of technology.

The EPA supports making the architectural coatings rule effective and applicable as quickly as possible, but in a time frame within which regulated entities may reasonably comply. The EPA believes that the 12-month compliance period in the final rule allows the industry appropriate time to achieve compliance with the rule. The EPA believes that coating technologies currently exist to meet all of the rule's VOC content limits. In limited cases where manufacturers or importers need additional time to comply, the tonnage exemption and the exceedance fee option already provide additional compliance flexibility and offset any need for additional compliance time.

At proposal, the EPA requested comment on whether the final rule should include a compliance extension for small manufacturers. Three-quarters of the commenters providing comments on this provision were against special treatment for small manufacturers. After careful evaluation of the comments, the EPA has decided not to include a compliance extension specifically restricted to small manufacturers. Instead, the EPA has extended the compliance period for all manufacturers

and importers to 12 months. The EPA has concluded that the information provided by commenters demonstrates that the 12-month compliance period allows adequate time for all regulated entities to comply. The EPA believes that other mechanisms such as the tonnage exemption and the exceedance fee will also help alleviate concerns regarding the compliance period for small entities.

M. Cost/Economic Impacts

At proposal, the EPA solicited comment regarding the size and nature of reformulation costs to gauge the reasonableness of the estimate used in the EPA's EIA. The estimate the EPA used at proposal ($250,000 per product reformulation) was based on an estimate presented to the Regulatory Negotiation Committee in 1993 (Docket# II–E–52). The EPA received several public comments in response to this request and categorized the estimates provided based on the following dimensions: technical staff training, prioritization of products needing reformulation, survey of available materials, reformulation to desired properties, performance tests, field tests, marketing costs, production costs (labels), sales training, and executive expenses. Eleven of the comments received provided comparable information for gauging reformulation costs per product. Other comments provided less complete information that the EPA has taken into account, but did not include the specific information necessary to assess the reasonableness of the EPA's estimate. The EPA combined the estimates from these eleven comments with the original cost estimate and found that reformulation cost per product ranged in value from $576 to $272,000 (1991 dollars), with a mean value of approximately $87,000. This gives an indication that the EPA's estimate at proposal significantly overstated the average cost to reformulate a product. Because the mean value from these comments represents a wide variety of conditions for reformulation (in comparison to the one scenario described to the Regulatory Negotiation Committee), the EPA revised the EIA using $87,000 as the average cost to reformulate a product. Appendix B of the EIA and the architectural coatings BID provides a full discussion of the review of these cost estimates.

Several commenters indicated that they thought that the estimate of total social cost was too low because the EPA underestimated or omitted several cost factors. Some of the factors cited by commenters that costs are underestimated are listed below:

(1) The estimate did not consider every reformulation such as the recalibration and reformulation of every color in a tint base system when the base is reformulated,

(2) The survey used to estimate costs excluded 400 small paint manufacturing companies,

(3) Only the costs of laboratory personnel are included in the estimate,

(4) The estimate did not consider the cost of foregone new product development when expending scarce technical effort to reformulate existing products, and

(5) Aggregation of 50 product categories into 13 market segments reduces the impact presented.

Commenters also cited several cost categories that potentially were omitted from the total cost estimate, including:

(6) Costs for preparing product literature, including material safety data sheets, sales aids, color brochures, and technical data bulletins;

(7) Costs for manufacturer education;

(8) Costs to consumers from increased surface preparation, application, and drying time;

(9) Costs associated with warranty claims and complaints about poor performance of compliant coatings;

(10) Litigation costs due to increased safety hazards from using acetone formulations;

(11) Increased costs to retailers, contractors, and other consumers;

(12) Additional job losses in the paint industry and the socioeconomic impact on low income workers; and

(13) Impacts of product bans on the nation.

Two of these commenters (a manufacturer and its legal counsel) stated that if the EPA included all cost factors in the total cost estimate, then the impacts of the rule would exceed $100 million and would necessitate additional analyses under Executive Order 12866 and the Unfunded Mandates Reform Act. Some commenters also believed that the method of calculating the national cost was flawed in that costs are calculated on an annualized basis. A commenter also stated that expressing the cost in 1991 dollars did not represent real costs today and that assuming an interest rate of 7 percent was not a valid assumption for small businesses.

The EPA has carefully considered the comments regarding the economic impact of the rule, especially in light of the EPA's overestimate of the costs of reformulation in the proposal. The EPA believes the total social cost estimate provided at proposal was significantly above the actual cost of the regulation because of several conservative assumptions that were adopted in the analysis, and the evidence that the per-product reformulation cost was nearly three times greater than the average estimate obtained by public comments.

The method of calculating national cost for the final rule adheres to the EPA policy and Office of Management and Budget (OMB) guidance (OMB Circular A–94). It is a well-established tenet of benefit-cost analysis and cost-effectiveness analysis that benefits and costs need to be placed on a time-consistent basis for direct comparison. Therefore, the costs of the action must be computed on an annualized basis through discounting to be time consistent with the annual stream of emission reductions achieved. For the architectural coatings rule, the costs of reformulation and its VOC reduction benefits occur in different time periods. The reformulation of current noncompliant products is a ''one-time event,'' but the emission reductions of the new formula and the knowledge gained from developing the reformulation continue over the life of the product, which is an infinite period of time unless the product is permanently removed from the market. In other words, once a formulation is developed to comply with the regulation, manufacturers will have some knowledge to carry forward to all future modifications of the product (i.e., if they adjust the formula to improve certain attributes or characteristics of the product). However, the EPA recognizes that a case can be made for treating each product formula as having a finite service life, requiring periodic reformulation. Under this alternative assumption, the regulation is viewed as accelerating each product's next round of reformulation, an event that would have occurred anyway. For example, if a product is usually reformulated every 8 years, the rule's implementation may cause a manufacturer to investigate the reformulation 4 years earlier, thus accelerating the reformulation schedule for all future years. In response to this issue, the EIA for the final rule presents a calculation of annualized costs for both a finite and an infinite product life. Because the finite product life results in a higher annualized value, the EPA uses this estimate for the economic analysis of the final rule to produce a conservative estimate of impacts associated with the rule.

Also, because the survey of architectural coating producers was conducted in 1992 with information on products through the end of 1991, the EPA has set 1991 as the baseline year for the analysis. All market data are in 1991 dollars, and so for the purpose of

modeling, the costs are expressed in 1991 dollars. However, in response to comments, values for the final rule are expressed in both 1991 (the base year of analysis) and 1996 dollars. The EPA's conclusions regarding the impacts of the final rule are the same, whether expressed in 1991 or 1996 dollars.

In addition, OMB (OMB Circular A–94) stipulates that the discount rate used for economic analyses of Federal regulations is 7 percent. This is based on an assessment of a wide range of private and public investment returns. The 7-percent rate is a real discount rate (adjusting out inflation). In contrast, the market interest rates paid by firms are in nominal terms (i.e., they include a component for inflation). If inflation is 3 percent, then a real rate of 7 percent is equivalent to a nominal rate of 10 percent. All dollar values in the economic analysis are expressed in real terms, thus the discount rate used is a real discount rate.

Using the stated method for calculating the per-product costs of reformulation, the EPA conducted an in-depth analysis of national cost and economic impact to support both the proposed and final rules. More specifically, the estimate of net social cost is based on the average cost to reformulate products that exceed the limits set by the standard. These costs are applied to specific products identified by the survey. For these products, costs are applied to two-thirds of the population of non-compliant products because one-third of these products are similar enough in characteristics to other ''over-the-limit'' products that a separate reformulation effort is not likely to be necessary. Although the survey was unable to capture all products produced by small businesses as one commenter states, the EPA assumed (for an upper bound estimate) that all product volume in the non-survey population was produced by small businesses. Thus, costs are extrapolated to the nation using conservative assumptions of the total number of products requiring reformulation nationally. The analysis then considers influences in a competitive market on product price and output, along with the consideration of lower-cost compliance options such as the exceedance fee provision or product withdrawal from the market. The analysis not only measures the cost to producers that must comply with the regulation, but also to all consumers impacted by the changes in the market resulting from the regulation. The analysis also identifies gains in revenues to producers that are not constrained by the rule (thus, not incurring costs), but who gain an advantage of higher market prices for their products. Thus, the EPA believes that the analysis reasonably captures all capital and social costs for surveyed as well as non-surveyed products.

The original product reformulation cost estimate included several components beyond the cost of the laboratory personnel, which are itemized in the EIA. Although some of the items listed by commenters as improperly omitted may not have been included in the per-product reformulation cost estimate at proposal, several of the estimates from public comments that were used for the final rule included these components, and therefore, they are included in the estimate used for the final rule. The EPA also considered the influence (positive and negative) of other factors that are not possible to quantify, and presented these biases in a table of the EIA at proposal and for the final rule. Most of the biases are variable and case specific. For example, product quality changes were found to have both positive and negative effects on cost depending on the product. The EPA found no link between product quality and VOC content since quality, high-performing products are available in a wide range of VOC content levels in many product categories. Given this finding, the EPA does not consider warranty claims and complaints for poor performance to be typical or quantifiable for a reformulated product. The EPA also found examples of increased and decreased time utilized for surface preparation, application, and drying of compliant coatings. The use of acetone formulations is also not considered a necessity to comply with the rule since there are other raw material substitutes available to manufacturers. Thus, incurring increased safety hazards by choosing an acetone formulation is a decision that should be made by a manufacturer based on benefit/cost considerations, rather than as a result of the rule. Other categories of influence on the cost estimate are also discussed qualitatively in the EIA.

The cost of foregone new product development is an aspect of opportunity cost that is implicitly included in the EPA's estimate of economic impacts. The amortized cost of reformulation reflects both the payment of principal and the cost of capital. The cost of capital directly reflects the value of opportunities foregone by investing funds in a particular activity, in this case, reformulation. Thus, if investing in reformulation diverts funds from investing in other product enhancements, the foregone value of those investments is captured in the discount rate used in the analysis.

The aggregation of 50 categories into 13 market segments is the result of cross-referencing the emissions inventory data from the industry survey with the coding system set by the Census of Manufacturers, a large source of economic data. The methodology to link survey categories with the Census data is described in an appendix to the EIA. The EPA's objective was to specify as many market categories as the data would allow. Using this method, the largest possible number of meaningful market categories was 13. The aggregation process presents an appropriate way to analyze the cost and economic impacts and does not in any way diminish the estimates of the absolute impact of the regulation. However, the aggregation process may make it difficult to detect relatively large impacts within one subgroup of a market category, if these impacts are offset by relatively small impacts in other subgroups of that market. In other words, a product may be more likely to be withdrawn from the market than is indicated in the 13 market segments of the analysis since multiple product niches would be lumped within the same market segment. On the other hand, this aggregation may increase the estimated effect on manufacturers by over-stating the degree to which products within the market segment can substitute for products affected by the regulation.

While the EPA did not directly measure impacts on the retailing sector, contractors, and other consumers, the indirect impacts to these entities and other users of coatings products are captured in the market analysis by the estimated change in ''consumer surplus,'' along with all other downstream effects beyond the manufacturer. Consumer surplus measures the distribution of the burden of the regulation to all consumers. Since the impact on consumers calculated for proposal was less than one-third of the manufacturers' burden, and contractors and retailers are a small subset of this effect, the EPA saw no indication of a need for an in-depth analysis of secondary (indirect) impacts.

It should be recognized that retail outlets have the ability to substitute between compliant and noncompliant coatings offered for sale. While the EPA projects the number of withdrawn products to be small, if a manufacturer does choose to discontinue a product, retailers will presumably replace this product with other compliant products in that category. Thus, although foregone profits are ''lost'' for the

manufacturer withdrawing a product, the retailer offsets any lost profits from selling the withdrawn product with profits obtained by selling substitutes within that category. As indicated above, the number and volume of product withdrawals is projected to be quite small (less than 1-percent nationally), thus suggesting retailing effects, if they exist at all, are also likely to be quite small.

The job loss and other substantial economic impacts that are referred to by a commenter are the result of assuming that every reformulation required by the standards is not feasible, thus the products would be removed from the market causing manufacturers, contractors, retailers, and other consumers to be economically impacted. Because there are a very limited number of products that are expected to be withdrawn from the market, most products will be reformulated or produced with current formulations (with manufacturers using the tonnage exemption provision or paying a fee for emissions in excess of the standards).

Likewise, this regulatory action cannot be considered a ''product ban'' because the EPA believes that it is technologically feasible to reformulate all product categories to meet the standards. The expected level of product withdrawal is calculated based upon the aggregate impact on numerous varieties of products across 13 different market segments, so it is unlikely to eliminate (or ban) an entire product category. In addition, the rule contains limits for 61 categories of products, many of which were created to preserve specialty, niche market sectors within the industry. Also, the tonnage exemption and exceedance fee provisions in the rule are expected to provide further compliance flexibility which will allow manufacturers to maintain product lines with VOC contents that exceed the applicable VOC content limits in appropriate circumstances.

In conclusion, based on the data and information provided to the EPA prior to proposal and through public comments, the revised national annualized cost estimate of the final rule of $25.6 million in 1991 dollars (or $29 million in 1996 dollars) is representative of all costs to producers and consumers. This cost and its effect on the industry do not meet the minimum criteria set forth by Executive Order 12866 or the Unfunded Mandates Reform Act to require additional analyses, as some commenters have suggested.

N. Small Business Issues

The EPA received several comments that small businesses would be disproportionately impacted by the regulation because: (1) they manufacture products with higher VOC content in comparison to the large companies; (2) due to the lack of resources, it would take longer for small firms to reformulate all affected products; and (3) the rule would discourage niche market products that support many regional and local manufacturers. Some commenters also claimed that the proposed regulation provided a competitive advantage to large national and international companies because a uniform national rule simplifies marketing, production, and compliance activities of these firms.

During development of the rule, the EPA was aware of the above concerns of small manufacturers and designed the architectural coatings rule to minimize any potential adverse impacts on small manufacturers. In fact, special consideration was given to economic feasibility of VOC levels for coating categories where small manufacturers have a disproportionate presence. The small entity analysis confirmed that small producers that were included in the survey of manufacturers do tend to produce higher VOC content products (75 percent higher than the average of all surveyed manufacturers), partly because of a specialization of products and partly because of choice of technology. They produced 20 percent of the number of products in the survey, but only account for 4 percent of total volume of coatings produced, and 4 percent of total revenue of surveyed manufacturers. Thus, the revenues and production levels are generally lower than the average of all manufacturers. Because the costs to reformulate are fixed for all levels of production, the costs to reformulate the products that exceed the VOC content limits have the potential to comprise a greater share of baseline costs and revenues for small producers, which gives some indication that a disproportionate impact on small businesses could occur if reformulation were the only compliance option available. The EPA considered this finding and has taken several steps in the final rule to mitigate this impact, provide flexibility and additional compliance time, and preserve niche markets, including:

- The creation of new product categories where warranted,
- An increased compliance time (12 months),
- A tonnage exemption provision, and
- An exceedance fee provision.

All of these provisions were considered in part to address niche markets and small business burdens; however, the provisions will be available to all producers regardless of size. The EPA's analysis of the impacts of the final rule shows that small businesses are likely to utilize these provisions and that the impact on a typical small firm is reduced without significant deterioration of the rule's effectiveness (i.e., the foregone emission reductions are limited). See section VI.E of this preamble for a summary of findings from the analysis.

The EPA disagrees that the proposed architectural coatings rule favors larger businesses to the detriment of smaller businesses. As the EIA indicates, estimated market effects from the architectural coatings rule are relatively slight. Approximately one-tenth of 1 percent of industry product volume is projected to withdraw from the market, and price effects in each market are expected to range from no effect to an increase of less than 2 cents per liter, which is still less than a 1-percent increase of the baseline price. The expected level of product withdrawal discussed above is based upon the aggregate of numerous varieties of products across 13 different market segments, so it is unlikely to eliminate an entire product category. Compared to other industries, the coatings industry is highly competitive due to the numerous manufacturers in the industry. Therefore, a relatively small product withdrawal effect on a very competitive industry suggests that significant degradation of market competition is unlikely.

The EPA also does not agree that a uniform national regulation would have negative implications for competition with respect to antitrust laws and would reduce market efficiency. In fact, the existence of nonuniform standards across States tends to favor one sector of the industry (local manufacturers) at the expense of another (non-local manufacturers), thereby limiting competition in those markets. Some public commenters supported a national rule because they believe nonuniform standards harmed small manufacturers. As one commenter testified at the public hearing, small companies lack the resources to deal with a large number of different State regulations and labeling requirements and a regulatory climate that changes frequently. Another commenter pointed out that these conditions hinder small companies' ability to plan for new products, production, expansion, and marketing. All of these activities require the

investment of time and money that can easily be expended if a county, district, or State implements a new VOC rule. The EPA considers a national VOC rule an important element in promoting consistency among architectural coating standards. The EPA also recognizes that a national rule for architectural coatings sets minimum national requirements, and that some States may need to adopt requirements for architectural coatings more stringent than those in this rule.

The EPA also received comments on the definition of a small entity that the EPA adopted for the regulatory flexibility analysis. One commenter supported the definition, while several others argued that the definition was too restrictive and suggested it be revised to include more firms (i.e., firms with architectural coatings sales between $20 and $30 million, or firms with less than $50 million, or firms with less than $100 million in sales). Because the coating manufacturing industry is not labor-intensive, a revenue value cut-off rather than a number-of-employees cut-off appeared to be a better measure to reflect the ability of a manufacturer to devote time as well as research and development resources to meet regulatory requirements. Based on input from stakeholders during the regulatory negotiation process (II–E–62), the EPA has defined small manufacturers as those having less than $10 million in annual architectural coating sales and less than $50 million in total annual sales from all products. Using this definition, between 70 and 85 percent of the architectural coatings industry would be classified as small. This definition does not change the requirements of the Regulatory Flexibility Act (RFA); it is used for analysis purposes only. If the definition were changed to include more firms at sales levels greater than $10 million, the impacts on this sector of the industry may appear lower on average because the impacts on a company with sales around $30 million may offset impacts on a $5 million company. In such a case, the EPA may have been less likely to consider special provisions such as the exceedance fee or tonnage exemption. The EPA believes the current definition is representative of the industry and has not revised it for the final rule.

O. Cost-Effectiveness

In the preamble to the proposed rule (61 FR 32735, June 25, 1996), the EPA solicited comments on alternative approaches to the cost-effectiveness calculation for the proposed rule. As distinct from EPA's consideration of cost in the BAC analysis, the discussion in this section did not form a basis for EPA's selection of BAC for the categories of products regulated by the rule.

Cost-effectiveness is a measure used to compare alternative strategies for reducing pollutant emissions, or to provide a comparison of a new strategy with historical strategies. The EPA's established method of calculating the cost-effectiveness of a rule with nationwide applicability is to divide the total cost of the rule by total emission reductions. At proposal, the EPA requested comment on two alternative ways of calculating cost-effectiveness for the architectural coatings rule: (1) cost-effectiveness considering total emission reductions in ozone nonattainment areas only, and (2) cost-effectiveness considering emission reductions in ozone nonattainment areas during the ozone season only.

Before discussing the comments received on this cost-effectiveness methodology issue, it is important to note that the provisions and rationale for today's rule are not dependent upon the disposition of this issue. The EPA nonetheless took comment on the issue because this rule was among the first to be proposed under section 183(e) of the Act and presented an opportunity to receive public input early in the program.

In regard to cost-effectiveness methodologies, the EPA received comments from three commenters, all of whom favored the EPA's traditional measure of cost-effectiveness. One commenter stated that it is important to characterize cost-effectiveness in a consistent manner so that various control strategies can be compared on equal footing and that calculating cost-effectiveness based solely on nonattainment areas unfairly biases the calculation by ignoring the benefit of reducing the transport of ozone and its precursors. Another commenter advised the EPA to maintain the traditional measure since it is commonly used and will continue to provide meaningful comparisons. The latter commenter opposed more narrow measures of cost-effectiveness, such as exclusively measuring the effect on ozone concentrations or VOC reductions in ozone nonattainment areas only. The third commenter considered cost-effectiveness based on VOC reductions solely in ozone nonattainment areas to be impractical, because the manufacturer has little control over where coatings will be used. Such control would necessitate additional recordkeeping to track intended and actual locations of product use.

After considering these comments, the EPA does not plan to adopt these alternative approaches to calculating cost-effectiveness for rules with nationwide control requirements, for reasons that are presented below.

One issue raised by the comments is whether the EPA's traditional measure creates a bias against strategies that apply in a limited geographic area (e.g., in nonattainment areas) relative to nationwide strategies, or against seasonal strategies relative to year-round strategies. This issue would arise if the EPA used cost-effectiveness figures to compare the desirability of these dissimilar types of strategies. In fact, the EPA did not use cost-effectiveness estimates in this way in developing the architectural coatings rule. In the case of the architectural coatings rule, the EPA considered applying restrictions to architectural coatings only in nonattainment areas (either by rule or through a CTG). The EPA believes that such geographically targeted restrictions for these nationally distributed architectural coatings would pose substantial implementation difficulties for government and would impose substantial compliance burdens on a large number of regulated entities. The EPA also believes that such geographically targeted restrictions for these nationally distributed products would be less effective at reducing emissions than a national rule (see section V.A of this preamble for further discussion). Because the EPA determined that a strategy applicable only to nonattainment areas would be less desirable than a national rule for architectural coatings, the EPA did not see a need to invest resources to pursue that strategy and calculate its cost-effectiveness.

The EPA considered whether use of one of the alternative cost-effectiveness methodologies would enable the EPA to make valid cost-effectiveness comparisons between nationwide and targeted geographic strategies, or year-round and seasonal strategies, for reducing ozone pollution. The EPA has not chosen these alternatives because it has the following concerns about the two alternative approaches:

First, VOC emission reductions have benefits other than reducing ozone levels in nonattainment areas. As a result, the EPA believes the cost-effectiveness calculation for a nationwide, year-round rule should not exclude VOC emission reductions in attainment areas or outside the ozone season. The EPA recognizes that a primary objective of section 183(e) of the Act is to reduce VOC emissions in ozone nonattainment areas. However, as

previously explained, in the development of the architectural coatings rule, the EPA believes that the best policy alternative is to implement a nationwide rule. Therefore, emission reductions from this rule will not only be realized in ozone nonattainment areas, but also in all other parts of the country in which architectural coatings are distributed and consumed.

In general, the benefits of VOC reductions in ozone attainment areas include reductions in emissions of VOC air toxics, reductions in the contribution from VOC emissions to the formation of fine particulate matter, and reductions in damage to agricultural crops, forests, and ecosystems from ozone exposure. Emission reductions in attainment areas help to maintain clean air as the economy grows and new pollution sources come into existence. Also, ozone health benefits can result from reductions in attainment areas, although the most certain health effects from ozone exposure below the NAAQS appear to be both transient and reversible. The closure letter from the Clean Air Science Advisory Committee (CASAC) for the recent review of the ozone NAAQS states that there is no apparent threshold for biological responses to ozone exposure [See U.S. EPA; Review of NAAQS for Ozone, Assessment of Scientific and Technical Information, Office of Air Quality Planning and Standards Staff Paper; document number: EPA–452\R–96–007].

Second, under either alternative approach, emission reductions in ozone attainment areas would not be included in the calculation. This appears to imply that emissions reductions in attainment areas do not contribute to cleaner air in nonattainment areas. VOC sources in regions adjacent to nonattainment areas may contribute to ozone levels in nonattainment areas. As a result, a cost-effectiveness comparison based on the alternative approaches sometimes could create a bias against a nationwide rule relative to a strategy that applies in nonattainment areas only.

In light of the transport issue, it has been suggested that the EPA apply a weighting factor to account for differences in the extent to which emissions inside and outside nonattainment areas contribute to ozone formation in nonattainment areas. The EPA is concerned that in order to calculate cost-effectiveness using this concept, the EPA would have to conduct extensive and costly air quality modeling to estimate ozone reductions resulting from each candidate control strategy and that this would require extensive data on the location of emissions. Such detailed analysis is appropriate for some policy decisions, but not for all. As a result, the EPA is skeptical that this weighting approach would represent a generally useful analytical tool for decision making.

The EPA, of course, agrees that differences in the location and timing of emission reductions are a significant consideration in choosing among alternative strategies. The extent of ozone reductions and other benefits resulting from VOC emission reductions varies, partly based on location and season. In considering nationwide vs. geographically targeted controls, and year-round vs. seasonal controls, the EPA considers available information on the effectiveness of those strategies in reducing ozone—as well as other health and environmental considerations, economic considerations, and other relevant factors—in making a holistic assessment of which strategy is most desirable from an overall public policy standpoint.

There are instances where the EPA does provide an estimate of cost-effectiveness of a control strategy during the ozone season, i.e., generally, when a control strategy is feasible to apply on a seasonal basis, or when limits are set on a seasonal basis. Although these figures are useful for comparing different seasonal strategies, the EPA does not plan to use cost-effectiveness figures for inappropriate (i.e., apple to orange) comparisons between seasonal and year-round strategies for the 183(e) program for the reasons presented above. In regard to today's rule, the EPA notes that the nature of architectural coatings emissions does not allow for control strategies that reduce emissions only during the ozone season to be an objective for consideration. One reason is that the shelf life and consumption rate of architectural coatings varies greatly and one cannot predict that a certain percentage of a product made with a specified formulation will be consumed and, thus, result in VOC emitted during the ozone season. Because the Agency has concluded that an ozone season-based approach is not a viable control strategy for architectural coatings, the EPA did not believe it was appropriate to develop a seasonal-based approach to measuring cost-effectiveness for the architectural coatings rule.

P. Future Study and Future Limits

The EPA has determined to regulate architectural coatings based upon the study and Report to Congress required by Section 183(e) of the Act. For the reasons discussed in the separate final listing decision published today in the **Federal Register**, the 183(e) study established that the EPA should regulate architectural coatings to reduce VOC emissions, as directed by the Act. The final rule's VOC content limits, in combination with the exceedance fee and tonnage exemption provisions, reflect the EPA's determination of BAC for architectural coatings, based on the EPA's analysis of currently available information on coating technologies. However, the EPA recognizes that manufacturers are continuously developing new and innovative products in response to competitive markets as well as to regulatory pressures. The EPA has developed the final requirements for architectural coatings largely from data for coatings manufactured in the early 1990s, and the EPA believes, therefore, that VOC reductions beyond those reflected in table 1 of the rule may be technologically and economically feasible in the future. In the preamble for the proposed rule, the EPA discussed the idea of a joint study with the industry to investigate the cost and performance characteristics of coatings with VOC contents lower than the promulgated limits and to assess the environmental and economic impacts of requiring lower VOC contents. The EPA requested comments concerning such an EPA/industry study and any performance, cost, or reactivity considerations that should be included in such a study. The EPA also requested information on coating categories where recent progress in low-VOC resin systems has resulted in the introduction of new low-VOC coatings into the market since 1990. In addition, the EPA requested cost information and comments on the ability of coatings with VOC content limits lower than the proposed levels to meet the performance needs within the coating category.

A total of 27 commenters responded to the EPA's request for comments, representing a wide variety of positions. The comments generally addressed three issues: (1) the usefulness of the proposed joint study, (2) how the EPA should conduct the study, and (3) the merit of promulgating additional or more stringent standards for architectural coatings.

Based on these comments, the EPA has concluded that an additional study for this category may be warranted to determine the feasibility of additional reductions in VOC limits. However, contrary to some commenters' assertions, the EPA would not necessarily impose future requirements as a result of any study. A study could indicate that further regulation of architectural coatings is unwarranted.

The EPA appreciates the willingness expressed by many commenters to participate in a joint study. The effectiveness of any study is highly dependent on a spirit of openness and cooperation between all affected parties. In order to determine the potential for useful results from a second study, the EPA will solicit input from industry representatives and other interested parties on the timing, scope, and content of the study. Decisions concerning the additional study will be made on the basis of this input.

Some commenters questioned the EPA's authority to engage in any future regulatory initiatives involving architectural coatings. These commenters did not identify any statutory language in section 183(e) of the Act that supports this position. The EPA believes that section 183(e) explicitly authorizes the EPA to use ''any system or systems of regulation'' that are appropriate to achieve the goals of the statute, and the EPA's explicit directive is to require BAC. Nothing in section 183(e) explicitly or implicitly prohibits the EPA from updating or amending the regulations in the future, if appropriate. The EPA has striven to promulgate the appropriate regulations given the current state of technology. Future innovation in technology may justify reexamination of the regulations, and the EPA wishes to encourage such innovation in order to achieve the objectives of section 183(e).

Q. Administrative Provisions

Since proposal, the EPA has added several new sections to the regulation to aid in implementing the rule. These administrative provisions do not add any new compliance requirements to the rule, and pose no additional impacts on regulated entities. The EPA has added the new requirements to provide consistent procedures for implementation. The provisions that were added are as follows: (1) Addresses of the EPA Regional Offices, (2) State Authority, (3) Circumvention, (4) Incorporations by Reference, and (5) Availability of Information and Confidentiality.

The section on addresses specifies the mailing addresses of the EPA Regional Offices for the submittal of required reports. The States and territories served by the various Regional Offices are listed in this section as well. The appropriate Regional Office for purposes of reporting would be that Regional Office which serves the State or territory in which the regulated entity's corporate headquarters are physically located.

The section on State authority clarifies that this rule in no way prevents States from adopting more stringent regulations. The section on circumvention prohibits regulated entities from doing anything to conceal what would otherwise be noncompliance, by such means as falsifying records of product formulation or VOC content. The section on incorporations by reference includes as part of the rule the ASTM methods and technical standards of the American Architectural Manufacturer's Association that are cited by reference. Finally, the section on availability of information and confidentiality clarifies the type of information that is available to the public, and provides for the confidential handling of any proprietary information that may be submitted to the EPA in response to the rule.

VI. Administrative Requirements

A. Docket

The docket is an organized and complete file of all the information considered by the EPA in the development of this rule. The docket is a dynamic file, since material is added throughout the rulemaking development. The docketing system is intended to allow members of the public to identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated standards and the EPA responses to significant comments, the contents of the docket will serve as the record in case of judicial review [see 42 U.S.C. 7607(d)(7)(A)].

B. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to OMB under the *Paperwork Reduction Act*, 44 U.S.C. 3501, *et seq.* An Information Collection Request (ICR) document has been prepared by the EPA (ICR No. 1750.02) and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division, United States Environmental Protection Agency (2137), 401 M Street, SW, Washington, DC 20460, or by calling (202) 260–2740. The information requirements are not effective until OMB approves them.

The information collections required under this rule are needed as part of the overall compliance and enforcement program. The information will be used by the EPA to identify the regulated entities subject to the rule and to ensure their compliance with the rule. The recordkeeping, reporting, and labeling requirements are mandatory and are being established under sections 114 and 183(e) of the Act. All information submitted to the EPA for which a claim of confidentiality is made will be safeguarded according to the EPA policies set forth in Title 40, Chapter 1, Part 2, Subpart B-Confidentiality of Information (see 40 CFR part 2; 41 FR 36902, September 1, 1976, as amended by: 43 FR 39999, September 8, 1978; 43 FR 42251, September 28, 1978; and 44 FR 17674, March 23, 1979).

The total annual reporting and recordkeeping burden for this information collection averaged over the first 3 years is estimated to be 65,851 hours per year. The total annualized recordkeeping and reporting costs for this rule are estimated to be $2,452,683. This is the estimated burden for the estimated 500 respondents (i.e., architectural coating manufacturers).

The average estimated burden, per respondent, is 132 hours per year. The total reporting and recordkeeping burden for an individual respondent will vary depending on the compliance option chosen. Respondents meeting the VOC content limits will have the lowest reporting and recordkeeping burden. Manufacturers and importers that choose the option of calculating an ''adjusted-VOC content'' (for recycled coatings), paying an exceedance fee, or exercising the tonnage exemption will have a higher reporting and recordkeeping burden. The final rule requires an initial one-time notification from each respondent. Respondents whose coating products have a VOC content that is less than or equal to the VOC content limits have no periodic reporting requirements. Respondents using the recycled coatings provision must keep records and submit annual reports. Respondents taking advantage of the tonnage exemption must file annual reports and must maintain records for the coatings being claimed under the exemption. Respondents paying an exceedance fee must submit reports on an annual basis. These manufacturers must also keep records for each coating product on which fees are paid.

Burden in this context means the total time, effort, or financial resources expended by persons to generate, maintain, retain, disclose, or provide information to or for a Federal agency. This includes the time needed to: (1) Review instructions; (2) develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; (3) adjust the existing ways to comply with any previously applicable instructions and

requirements; (4) train personnel to be able to respond to a collection of information; (5) search data sources; (6) complete and review the collection of information; and (7) transmit or otherwise disclose the information.

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Send comments on the EPA's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPE Regulatory Information Division, United States Environmental Protection Agency (2137), 401 M Street, SW, Washington, DC 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, N.W., Washington, DC 20503, marked ''Attention: Desk Officer for EPA.'' Comments are requested within October 13, 1998. Include the ICR number in any correspondence.

C. Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the EPA must determine whether a regulatory action is ''significant'' and therefore subject to OMB review and the requirements of the Executive Order. The Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of the Executive Order, the EPA has determined that this final rule is a ''significant regulatory action'' under criterion (4) above, based on the novel use of economic incentives (an exceedance fee) for this industry. Therefore, the EPA submitted this action to OMB for review. Any changes made in response to OMB suggestions or recommendations are documented in the public record.

D. Executive Order 12875

To reduce the burden of Federal regulations on States and small governments, the President issued Executive Order 12875 on October 26, 1993, entitled Enhancing the Intergovernmental Partnership. This Executive Order requires agencies to assess the effects of regulations that are not required by statute and that create mandates upon State, local, or tribal governments. In compliance with Executive Order 12875, the EPA has involved State and local governments in the development of this rule. State and local air pollution control agencies participated in the regulatory negotiation and have also submitted comments after proposal for consideration in developing the final rule.

E. Regulatory Flexibility Act/Small Business Regulatory Enforcement Fairness Act of 1996

The RFA of 1980 (5 U.S.C. 601, *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), requires the EPA to give special consideration to the effect of Federal regulations on small entities and to consider regulatory options that might mitigate any such impacts. The EPA is required to prepare a regulatory flexibility analysis, including consideration of regulatory options for reducing any significant impacts, unless the EPA determines that a rule will not have a significant economic impact on a substantial number of small entities.

The EPA prepared analyses to support both the proposed and final rules to meet the requirements of the RFA as modified by the SBREFA. The EPA undertook these analyses because of the large presence of small entities in the architectural coatings industry and because the EIA indicated that there could be a significant economic impact on a substantial number of small entities if mitigating regulatory options were not adopted for the rule. After evaluating public comment on the proposed mitigating options, the EPA made a number of changes to the proposed rule to further mitigate the rule's small business impacts. As a result, the EPA believes that it is highly unlikely that the rule will have a significant economic impact on a substantial number of small entities. However, in light of the EPA's inability to quantify the effect of all of the mitigating provisions included in the rule, the EPA has elected to conduct a regulatory flexibility analysis and to prepare a SBREFA compliance guide to eliminate any potential dispute about whether the EPA has fulfilled SBREFA requirements. The EPA expects to complete the compliance guide by the end of 1998.

The analysis supporting the proposed rule was published in the report titled, ''Economic Impact and Regulatory Flexibility Analysis of Air Pollution Regulations: Architectural and Industrial Maintenance Coatings,'' (June 1996). For the purpose of the analysis, the EPA considered small manufacturers to be firms with less than $10 million of total gross annual revenues from the sale of architectural coatings and less than $50 million in total gross annual revenues from all products. The EPA proposed this definition of small entity for the reasons stated in the September 3, 1996 **Federal Register** (61 FR 46411) and has determined that this definition is appropriate. The Small Business Administration has concurred on this definition of small entity.

Using this definition, one-third of the 116 firms for which the EPA has survey data are classified as small. There are approximately 500 total manufacturers. Since the EPA does not have data to indicate the total number of small firms producing architectural coatings, the EPA assumes as a conservative estimate that the unsurveyed manufacturer population (i.e., the remaining 384 manufacturers) are all small, and consequently, all product volume not captured by the 116 manufacturers surveyed is manufactured by small firms. Using this assumption, the EPA conducted an analysis that assumed 84 percent of the estimated 500 architectural coating producers, i.e., 420 firms, are small entities.

Based on an analysis of the survey data at proposal, the EPA recognized the fact that small businesses tend to produce products in specialized or niche markets and also to produce products that tend to have higher than industry-average VOC contents within less specialized markets. In addition, small manufacturers' revenue and production levels are generally lower than the average for all manufacturers. One benefit of their smaller production levels is that small manufacturers have a greater ability to adjust quickly to changes in markets. However, because the costs to reformulate are fixed for all levels of production, and small manufacturers have lower than average production levels, the costs for small manufacturers to reformulate represents a greater share of baseline costs and revenues. Without any rule provisions designed to mitigate impacts on small

manufacturers' niche markets and smaller production levels, there is some indication that a disproportionate impact on small businesses could occur.

At proposal, the EPA included categories and limits to preserve niche product markets. In addition, to evaluate whether further steps were still needed to accommodate niche market coatings, the EPA requested that commenters identify any additional specialty coatings which would not comply with VOC content requirements. The EPA also requested comment on whether to include an ''exceedance fee'' which would allow companies the option of paying a fee, based on the amount that VOC content limits are exceeded, instead of achieving the limit. In addition, the EPA requested comment on the concept of a low volume cut-off, under which a coating may be exempt from regulation. The analysis prepared to support the final rule builds upon the analysis performed for the proposal and takes into consideration compliance options the EPA has added to the final rule.

Due to confidentiality considerations associated with the survey data provided by the industry trade association, the EPA could not derive compliance cost as a percentage of revenues for each small manufacturer included in the survey population. This is because the aggregated information provided to the EPA did not have sales and VOC content information linked to any particular small manufacturer. The data compiled all responses for small manufacturers without any indication of firm name. Therefore, individual product VOC content information is available, and total revenues of all firms responding to the survey as a small business is available, but no method exists for the EPA to connect each response to an individual firm for a calculation of actual firm-level cost-to-revenues ratios. Absent exact information for each firm, the EPA performed the analysis based upon an average small business, using reasonable assumptions based upon the available data. In lieu of firm-level measures, the analysis presents an average cost/revenue ratio for a typical small firm based on the survey data.

The analysis has several other limitations. Although the EPA included specialty niche market categories in the rule, based on the data available to the EPA, there was no way to account for the extent to which these additional categories mitigated impacts. For example, the EPA's proposal included the following categories: ''impacted immersion coatings'', ''flow coatings'', and ''nonferrous ornamental metal lacquer and surface coatings'' which likely would have been reported in the survey under the broader ''industrial maintenance'' category. The analysis would likely overestimate impacts on some of the markets represented in the survey due to the inability to account for the subset niche markets within these surveyed categories for which the EPA created additional categories. Additionally, the EPA's analysis assumes that manufacturers bear the full cost of each reformulation. Since the VOC content limits in the rule reflect available resin technologies, the EPA expects that the cost to comply for those manufacturers needing to reformulate their higher VOC content coatings will be partially reduced through the assistance of resin manufacturers/suppliers. Upon request, most resin suppliers are willing to share information and sample low VOC content formulations with interested paint manufacturers, both large and small. For this reason, the analysis may overestimate the impact of reformulation costs. A further consideration is that the EPA's analysis is based on 1990 data, and there has been much technological progress in the past 8 years in addition to new State regulations with requirements similar to the EPA's rule (e.g., Massachusetts, Kentucky, and Oregon).

In response to public comments, the EPA added 7 coating categories and increased the VOC content limits for 4 coating categories, as well as the exceedance fee provision and a provision which would enable each manufacturer to claim as exempt a specified amount of VOC (known as the tonnage exemption). The EPA also added an extended period of compliance after promulgation to allow additional time for reformulations. The EPA expects these provisions to mitigate rule impacts on small businesses' low production volumes and to allow for the preservation of several niche markets. However, based on the limited data available to the EPA, only the mitigating impact of exceedance fees can be quantified.

The EPA first conducted the analysis without incorporating the quantifiable mitigating impacts of compliance options available in the final rule. The analysis shows that when reformulation is the only option for compliance, the cost/revenue ratio is 2.5 percent on average. When the alternative compliance options of the exceedance fee or product withdrawal are considered, the ratio decreases to 2 percent. This ratio would likely decrease further if the cost effects of the additional niche product categories, use of the tonnage exemption, and reduction in cost to reformulate due to resin supplier assistance could be specifically quantified.

The analysis in the EIA suggests that a large percentage of small firms will opt for one of the alternative compliance strategies in lieu of reformulation. For some of the products listed in the survey as produced by a small manufacturer, the EPA anticipates that it would be less costly for a firm to utilize the exemption provision, pay the exceedance fee, or withdraw a product (and forego profits on the product) rather than to reformulate. Although the lack of data at the firm level does not allow for an approximation of the use of the exemption, the analysis suggests that 35.5 percent of the small business products in the survey that exceed the standards will be maintained at current VOC content levels through the payment of the exceedance fee, 4 percent will be removed from the market, and 60.5 percent of the products will undergo reformulation. The availability of the alternative compliance strategies reduces the cost to small manufacturers by 23 percent (or more if the effect of the tonnage exemption and the portion of reformulation cost borne by resin manufacturers/suppliers could be quantified).

Based on the findings of the analysis and consideration of additional provisions which are designed to mitigate impacts, the EPA believes that it is highly unlikely that the rule will have a significant economic impact on a substantial number of small entities. The EPA believes that these measures adopted in the final rule will significantly mitigate the economic impacts on small businesses that might otherwise have occurred.

F. Unfunded Mandates Reform Act of 1995

Under section 202 of the Unfunded Mandates Reform Act of 1995 (''Unfunded Mandates Act''), signed into law on March 22, 1995, the EPA must prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate, or to the private sector, of $100 million or more in any one year. Under section 205, the EPA must select the most cost-effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires the EPA to establish a plan for informing and advising any small governments

that may be significantly or uniquely impacted by the rule.

Based upon the analysis presented in the EIA, the EPA has determined that the action promulgated today does not include a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector, in any one year. Therefore, the requirements of sections 202 and 205 of the Unfunded Mandates Reform Act do not apply to this action. The EPA has likewise determined that the final rule does not include regulatory requirements that would significantly or uniquely affect small governments. Thus, today's action is not subject to the requirements of section 203 of the Unfunded Mandates Act.

G. Submission to Congress and the General Accounting Office

The Congressional Review Act, 5 U.S.C. 801, *et seq.*, as added by the SBREFA of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the United States Senate, the United States House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A Major rule cannot take effect until 60 days after it is published in the **Federal Register**. This rule is not a ''major rule'' as defined by 5 U.S.C. 804(2). This rule will be effective September 11, 1998.

H. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (the NTTAA), Pub. L. No. 104–113, § 12(d) (15 U.S.C. 272 note), directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices, etc.) that are developed or adopted by voluntary consensus standard bodies. The NTTAA requires the EPA to provide Congress, through OMB, explanations when the EPA decides not to use available and applicable voluntary consensus standards.

In the case of this rule, the proposed rule required the use of Method 24 to determine VOC content of coatings. This method is a compilation of existing voluntary consensus methods to determine the volatile matter content, water content, and density of coatings. In response to the proposed rule, the EPA received no comments pertaining to the use of additional voluntary consensus standards rather than the proposed Method 24, either during or after the comment period. In preparing the final rule, however, the EPA has investigated to determine the availability of any other existing voluntary consensus standards for use in lieu of Method 24.

The EPA has searched for additional voluntary consensus standards that might be applicable. The search included use of the National Standards System Network, an automated service provided by the American National Standards Institute for identifying available national and international standards. The EPA has not identified any voluntary consensus standards that are not presently included in Method 24 and that would result in equivalent results. The EPA did identify another voluntary consensus method (ASTM Method D 3960) that provides instructions for calculating VOC content in many different units. Because this other method does not specify which units to use, it may result in inconsistent applications of the procedure and could make the standard more difficult to enforce. Consequently, the EPA determined that this other voluntary consensus method would be impractical to adopt. In addition, the EPA believes that it is appropriate to use Method 24 both because it has proven reliable and practical to achieve the goals of reducing VOC and because the EPA wishes to foster uniformity in testing nationwide. Accordingly, the EPA has determined that Method 24 constitutes the appropriate method for determining product compliance under this final rule.

I. Executive Order 13045

Executive Order 13045 applies to any rule that the EPA determines (1) is economically significant as defined under Executive Order 12866, and (2) for which the environmental health or safety risk addressed by the rule has a disproportionate effect on children. If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the EPA.

This final rule is not subject to Executive Order 13045, entitled Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997), because it is not an economically significant regulatory action as defined by Executive Order 12866, and it does not address an environmental health or safety risk that would have a disproportionate effect on children.

Executive Order 13084

Under Executive Order 13084, the EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or the EPA provides to the Office of Management and Budget a description of the prior consultation and communications the agency has had with representatives of tribal governments and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires the EPA to develop an effective process permitting elected and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.'' Information available to the Administrator does not indicate that this action will have any effect on Indian tribal governments.

List of Subjects in 40 CFR Part 59

Environmental protection, Air pollution control, Architectural coatings, Consumer and commercial products, Incorporation by reference, Ozone, volatile organic compound.

Dated: August 14, 1998.

Carol M. Browner,

Administrator.

For the reasons set out in the preamble, part 59 of title 40 of the Code of Federal Regulations is amended as follows:

PART 59—NATIONAL VOLATILE ORGANIC COMPOUND EMISSION STANDARDS FOR CONSUMER AND COMMERCIAL PRODUCTS

1. The authority citation for part 59 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

2. Part 59 is amended by adding subpart D to read as follows:

Subpart D—National Volatile Organic Compound Emission Standards for Architectural Coatings

Secs.
59.400 Applicability and compliance dates.
59.401 Definitions.
59.402 VOC content limits.
59.403 Exceedance fees.
59.404 Tonnage exemption.
59.405 Container labeling requirements.
59.406 Compliance provisions.
59.407 Recordkeeping requirements.
59.408 Reporting requirements.
59.409 Addresses of EPA Regional Offices.
59.410 State authority.
59.411 Circumvention.
59.412 Incorporations by reference.
59.413 Availability of information and confidentiality.
Appendix A to subpart D—Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings
Table 1 to Subpart D—Volatile Organic Compound (VOC) Content Limits for Architectural Coatings

Subpart D—National Volatile Organic Compound Emission Standards for Architectural Coatings

§ 59.400 Applicability and compliance dates.

(a) Except as provided in paragraphs (b) and (c) of this section, the provisions of this subpart apply to each architectural coating manufactured on or after September 13, 1999 for sale or distribution in the United States.

(b) For any architectural coating registered under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*), the provisions of this subpart apply to any such coating manufactured on or after March 13, 2000 for sale or distribution in the United States.

(c) The provisions of this subpart do not apply to any architectural coating described in paragraphs (c)(1) through (c)(5) of this section:

(1) A coating that is manufactured for sale or distribution to architectural coating markets outside the United States; such a coating must not be sold or distributed within the United States as an architectural coating.

(2) A coating that is manufactured prior to September 13, 1999.

(3) A coating that is sold in a nonrefillable aerosol container.

(4) A coating that is collected and redistributed at a paint exchange.

(5) A coating that is sold in a container with a volume of one liter or less.

§ 59.401 Definitions.

Act means the Clean Air Act (42 U.S.C. 7401, *et seq.*, as amended by Pub. L. 101–549, 104 Stat. 2399).

Adhesive means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means. Under this subpart, adhesives are not considered coatings.

Administrator means the Administrator of the United States Environmental Protection Agency (U.S. EPA) or an authorized representative.

Antenna coating means a coating formulated and recommended for application to equipment and associated structural appurtenances that are used to receive or transmit electromagnetic signals.

Anti-fouling coating means a coating formulated and recommended for application to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms, including, but not limited to, coatings registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*) and nontoxic foul-release coatings.

Anti-graffiti coating means a clear or opaque high performance coating formulated and recommended for application to interior and exterior walls, doors, partitions, fences, signs, and murals to deter adhesion of graffiti and to resist repeated scrubbing and exposure to harsh solvents, cleansers, or scouring agents used to remove graffiti.

Appurtenance means any accessory to a stationary structure, whether installed or detached at the proximate site of installation, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lamp posts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

Architectural coating means a coating recommended for field application to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs. This definition excludes adhesives and coatings recommended by the manufacturer or importer solely for shop applications or solely for application to non-stationary structures, such as airplanes, ships, boats, and railcars.

Below-ground wood preservative means a coating that is formulated and recommended to protect below-ground wood from decay or insect attack and that is registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*).

Bituminous coating and mastic means a coating or mastic formulated and recommended for roofing, pavement sealing, or waterproofing that incorporates bitumens. Bitumens are black or brown materials including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly of hydrocarbons, and are obtained from natural deposits of asphalt or as residues from the distillation of crude petroleum or coal.

Bond breaker means a coating formulated and recommended for application between layers of concrete to prevent a freshly poured top layer of concrete from bonding to the layer over which it is poured.

Calcimine recoater means a flat solventborne coating formulated and recommended specifically for recoating calcimine-painted ceilings and other calcimine-painted substrates.

Chalkboard resurfacer means a coating formulated and recommended for application to chalkboards to restore a suitable surface for writing with chalk.

Clear means allowing light to pass through, so that the substrate may be distinctly seen.

Coating means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, inks, maskants, and temporary coatings. Protective, decorative, or functional materials that consist only of solvents, acids, bases, or any combination of these substances are not considered coatings for the purposes of this subpart.

Colorant means a concentrated pigment dispersion of water, solvent, and/or binder that is added to an architectural coating in a paint store or at the site of application to produce the desired color.

Concrete curing compound means a coating formulated and recommended for application to freshly placed concrete to retard the evaporation of water.

Concrete curing and sealing compound means a liquid membrane-forming compound marketed and sold solely for application to concrete surfaces to reduce the loss of water during the hardening process and to seal old and new concrete providing resistance against alkalis, acids, and ultraviolet light, and provide adhesion promotion qualities. The coating must meet the requirements of American Society for Testing and Materials (ASTM) C 1315–95, Standard

Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete (incorporated by reference—see § 59.412 of this subpart).

Concrete protective coating means a high-build coating, formulated and recommended, for application in a single coat over concrete, plaster, or other cementitious surfaces. These coatings are formulated to be primerless, one-coat systems that can be applied over form oils and/or uncured concrete. These coatings prevent spalling of concrete in freezing temperatures by providing long-term protection from water and chloride ion intrusion.

Concrete surface retarder means a mixture of retarding ingredients such as extender pigments, primary pigments, resin, and solvent that interact chemically with the cement to prevent hardening on the surface where the retarder is applied, allowing the retarded mix of cement and sand at the surface to be washed away to create an exposed aggregate finish.

Container means the individual receptacle that holds the coating for storage and/or sale or distribution.

Conversion varnish means a clear acid curing coating with an alkyd or other resin blended with amino resins and supplied as a single component or two-component product. Conversion varnishes produce a hard, durable, clear finish designed for professional application to wood flooring. The film formation is the result of an acid-catalyzed condensation reaction, affecting a transetherification at the reactive ethers of the amino resins.

Dry fog coating means a coating formulated and recommended only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the vicinity of the surface coating activity.

Exempt compounds means specific organic compounds that are not considered volatile organic compounds (VOC) due to negligible photochemical reactivity. The exempt compounds are specified in 40 CFR 51.100.

Exterior coating means an architectural coating formulated and recommended for use in conditions exposed to the weather.

Extreme high durability coating means an air dry coating, including a fluoropolymer-based coating, that is formulated and recommended for touchup of precoated architectural aluminum extrusions and panels and to ensure the protection of architectural subsections, and that meets the weathering requirements of American Architectural Manufacturer's Association (AAMA) specification 605–98, Voluntary Specification Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels, Section 7.9 (incorporated by reference—see § 59.412 of this subpart).

Faux-finishing/glazing means a coating used for wet-in-wet techniques, such as faux woodgrain, faux marble, and simulated aging, which require the finish to remain wet for an extended period of time.

Fire-retardant/resistive coating means a coating formulated and recommended to retard ignition and flame spread, or to delay melting or structural weakening due to high heat, that has been fire tested and rated by a certified laboratory for use in bringing buildings and construction materials into compliance with Federal, State, and local building code requirements.

Flat coating means a coating that is not defined under any other definition in this section and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM Method D 523–89, Standard Test Method for Specular Gloss (incorporated by reference—see § 59.412 of this subpart).

Floor coating means an opaque coating with a high degree of abrasion resistance that is formulated and recommended for application to flooring including, but not limited to, decks, porches, and steps in a residential setting.

Flow coating means a coating that is used by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units.

Form release compound means a coating formulated and recommended for application to a concrete form to prevent the freshly placed concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.

Graphic arts coating or *sign paint* means a coating formulated and recommended for hand-application by artists using brush or roller techniques to indoor or outdoor signs (excluding structural components) and murals including lettering enamels, poster colors, copy blockers, and bulletin enamels.

Heat reactive coating means a high performance phenolic-based coating requiring a minimum temperature of 191 °C (375 °F) to 204 °C (400 °F) to obtain complete polymerization or cure. These coatings are formulated and recommended for commercial and industrial use to protect substrates from degradation and maintain product purity in which one or more of the following extreme conditions exist:

(1) Continuous or repeated immersion exposure of 90 to 98 percent sulfuric acid, or oleum;

(2) Continuous or repeated immersion exposure to strong organic solvents;

(3) Continuous or repeated immersion exposure to petroleum processing at high temperatures and pressures; and

(4) Continuous or repeated immersion exposure to food or pharmaceutical products which may or may not require high temperature sterilization.

High temperature coating means a high performance coating formulated and recommended for application to substrates exposed continuously or intermittently to temperatures above 202°C (400°F).

Impacted immersion coating means a high performance maintenance coating formulated and recommended for application to steel structures subject to immersion in turbulent, debris-laden water. These coatings are specifically resistant to high-energy impact damage caused by floating ice or debris.

Imported means that a coating manufactured outside the United States has been brought into the United States for sale or distribution.

Importer means a person that brings architectural coatings into the United States for sale or distribution within the United States. This definition does not include any person that brings a coating into the United States and repackages the coating by transferring it from one container to another, provided the coating VOC content is not altered and the coating is not sold or distributed to another party. For purposes of applying this definition, divisions of a company, subsidiaries, and parent companies are considered to be a single importer.

Industrial maintenance coating means a high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats formulated and recommended for application to substrates exposed to one or more of the following extreme environmental conditions in an industrial, commercial, or institutional setting:

(1) Immersion in water, wastewater, or chemical solutions (aqueous and nonaqueous solutions), or chronic exposure of interior surfaces to moisture condensation;

(2) Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;

(3) Repeated exposure to temperatures above 120 °C (250 °F);

(4) Repeated (frequent) heavy abrasion, including mechanical wear

and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or

(5) Exterior exposure of metal structures and structural components.

Interior clear wood sealer means a low viscosity coating formulated and recommended for sealing and preparing porous wood by penetrating the wood and creating a uniform smooth substrate for a finish coat of paint or varnish.

Interior coating means an architectural coating formulated and recommended for use in conditions not exposed to natural weathering.

Label means any written, printed, or graphic matter affixed to, applied to, attached to, blown into, formed, molded into, embossed on, or appearing upon any architectural coating container for purposes of branding, identifying, or giving information with respect to the product, use of the product, or contents of the container.

Lacquer means a clear or pigmented wood finish, including clear lacquer sanding sealers, formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film. Lacquer stains are considered stains, not lacquers.

Low solids means containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material and for which at least half of the volatile component is water.

Magnesite cement coating means a coating formulated and recommended for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

Manufactured means that coating ingredients have been combined and put into containers that have been labeled and made available for sale or distribution.

Manufacturer means a person that produces, packages, or repackages architectural coatings for sale or distribution in the United States. A person that repackages architectural coatings as part of a paint exchange, and does not produce, package, or repackage any other architectural coatings for sale or distribution in the United States, is excluded from this definition. A person that repackages a coating by transferring it from one container to another is excluded from this definition, provided the coating VOC content is not altered and the coating is not sold or distributed to another party. For purposes of applying this definition, divisions of a company, subsidiaries, and parent companies are considered to be a single manufacturer.

Mastic texture coating means a coating formulated and recommended to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (0.010 inch) dry film thickness.

Metallic pigmented coating means a nonbituminous coating containing at least 0.048 kilogram of metallic pigment per liter of coating (0.4 pound per gallon) including, but not limited to, zinc pigment.

Multi-colored coating means a coating that is packaged in a single container and exhibits more than one color when applied.

Nonferrous ornamental metal lacquers and surface protectant means a clear coating formulated and recommended for application to ornamental architectural metal substrates (bronze, stainless steel, copper, brass, and anodized aluminum) to prevent oxidation, corrosion, and surface degradation.

Nonflat coating means a coating that is not defined under any other definition in this section and that registers a gloss of 15 or greater on an 85-degree meter or 5 or greater on a 60-degree meter according to ASTM Method D 523–89, Standard Test Method for Specular Gloss (incorporated by reference—see § 59.412 of this subpart).

Nuclear coating means a protective coating formulated and recommended to seal porous surfaces such as steel (or concrete) that otherwise would be subject to intrusion by radioactive materials. These coatings must be resistant to long-term (service life) cumulative radiation exposure (ASTM Method D 4082–89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants (incorporated by reference—see § 59.412 of this subpart)), relatively easy to decontaminate, and resistant to various chemicals to which the coatings are likely to be exposed (ASTM Method D 3912–80 (Reapproved 1989), Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants (incorporated by reference—see § 59.412 of this subpart)).

Opaque means not allowing light to pass through, so that the substrate is concealed from view.

Paint exchange means a program in which consumers, excluding architectural coating manufacturers and importers, may drop off and pick up usable post-consumer architectural coatings in order to reduce hazardous waste.

Person means an individual, corporation, partnership, association, State municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof.

Pigmented means containing finely ground insoluble powder used to provide one or more of the following properties: color; corrosion inhibition; conductivity; fouling resistance; opacity; or improved mechanical properties.

Post-consumer coating means an architectural coating that has previously been purchased by a consumer or distributed to a consumer but not applied, and reenters the marketplace to be purchased by or distributed to a consumer. Post-consumer coatings include, but are not limited to, coatings collected during hazardous waste collection programs for repackaging or blending with virgin coating materials.

Pretreatment wash primer means a primer that contains a minimum of 0.5 percent acid, by weight, that is formulated and recommended for application directly to bare metal surfaces in thin films to provide corrosion resistance and to promote adhesion of subsequent topcoats.

Primer means a coating formulated and recommended for application to a substrate to provide a firm bond between the substrate and subsequent coatings.

Quick-dry enamel means a nonflat coating that has the following characteristics:

(1) Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27°C (60 and 80°F);

(2) When tested in accordance with ASTM Method D 1640–83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature (incorporated by reference—see § 59.412), sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and

(3) Has a dried film gloss of 70 or above on a 60 degree meter.

Quick-dry primer, sealer, and undercoater means a primer, sealer, or undercoater that is dry to the touch in a ½ hour and can be recoated in 2 hours when tested in accordance with ASTM Method D 1640–83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature (incorporated by reference—see § 59.412 of this subpart).

Recycled coating means an architectural coating that contains some portion of post-consumer coating. Recycled architectural coatings include, but are not limited to, post-consumer

coatings that have been repackaged or blended with virgin coating materials.

Repackage means to transfer an architectural coating from one container to another.

Repair and maintenance thermoplastic coating means an industrial maintenance coating that has vinyl or chlorinated rubber as a primary resin and is recommended solely for the repair of existing vinyl or chlorinated rubber coatings without the full removal of the existing coating system.

Roof coating means a coating formulated and recommended for application to exterior roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and reflecting ultraviolet radiation. This does not include thermoplastic rubber coatings.

Rust preventative coating means a coating formulated and recommended for use in preventing the corrosion of ferrous metal surfaces in residential situations.

Sanding sealer means a clear wood coating formulated and recommended for application to bare wood to seal the wood and to provide a coat that can be sanded to create a smooth surface. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category.

Sealer means a coating formulated and recommended for application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate; to prevent harm to subsequent coatings by materials in the substrate; to block stains, odors, or efflorescence; to seal fire, smoke, or water damage; or to condition chalky surfaces.

Semitransparent means not completely concealing the surface of a substrate or its natural texture or grain pattern.

Shellac means a clear or pigmented coating formulated with natural resins (except nitrocellulose resins) soluble in alcohol (including, but not limited to, the resinous secretions of the lac beetle, *Laciffer lacca*). Shellacs dry by evaporation without chemical reaction and provide a quick-drying, solid protective film that may be used for blocking stains.

Shop application means that a coating is applied to a product or a component of a product in a factory, shop, or other structure as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).

Stain means a coating that produces a dry film with minimal coloring. This includes lacquer stains.

Stain controller means a conditioner or pretreatment coating formulated and recommended for application to wood prior to the application of a stain in order to prevent uneven penetration of the stain.

Swimming pool coating means a coating formulated and recommended to coat the interior of swimming pools and to resist swimming pool chemicals.

Thermoplastic rubber coating and mastic means a coating or mastic formulated and recommended for application to roofing or other structural surfaces and that incorporates no less than 40 percent by weight of thermoplastic rubbers in the total resin solids and may also contain other ingredients including, but not limited to, fillers, pigments, and modifying resins.

Tint base means a coating to which colorant is added in a paint store or at the site of application to produce a desired color.

Traffic marking coating means a coating formulated and recommended for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways.

Undercoater means a coating formulated and recommended to provide a smooth surface for subsequent coatings.

United States means the United States of America, including the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Varnish means a clear or semi-transparent coating, excluding lacquers and shellacs, formulated and recommended to provide a durable, solid, protective film. Varnishes may contain small amounts of pigment to color a surface, or to control the final sheen or gloss of the finish.

Volatile organic compound or *VOC* means any organic compound that participates in atmospheric photochemical reactions, that is, any organic compound other than those which the Administrator designates as having negligible photochemical reactivity. For a list of compounds that the Administrator has designated as having negligible photochemical reactivity, also referred to as exempt compounds, refer to 40 CFR 51.100(s).

VOC content means the weight of VOC per volume of coating, calculated according to the procedures in § 59.406(a) of this subpart.

Waterproofing sealer and treatment means a coating formulated and recommended for application to a porous substrate for the primary purpose of preventing the penetration of water.

Wood preservative means a coating formulated and recommended to protect exposed wood from decay or insect attack, registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*).

Zone marking coating means a coating formulated and recommended for marking and striping driveways, parking lots, sidewalks, curbs, or airport runways, and sold or distributed in a container with a volume of 19 liters (5 gallons) or less.

§ 59.402 VOC Content limits.

(a) Each manufacturer and importer of any architectural coating subject to this subpart shall ensure that the VOC content of the coating does not exceed the applicable limit in table 1 of this subpart, except as provided in §§ 59.403 and 59.404 of this subpart.

(b) Except as provided in paragraph (c) of this section, if anywhere on the container of any architectural coating, or any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or importer or anyone acting on their behalf, any representation is made that indicates that the coating meets the definition of more than one of the coating categories listed in table 1 of this subpart, then the most restrictive VOC content limit shall apply.

(c) The provision in paragraph (b) of this section does not apply to the coatings described in paragraphs (c)(1) through (c)(15) of this section.

(1) High temperature coatings that are also recommended for use as metallic pigmented coatings are subject only to the VOC content limit in table 1 of this subpart for high temperature coatings.

(2) Lacquer coatings (including lacquer sanding sealers) that are also recommended for use in other architectural coating applications to wood, except as stains, are subject only to the VOC content limit in table 1 of this subpart for lacquers.

(3) Metallic pigmented coatings that are also recommended for use as roof coatings, industrial maintenance coatings, or primers are subject only to the VOC content limit in table 1 of this subpart for metallic pigmented coatings.

(4) Shellacs that are also recommended for use as any other

architectural coating are subject only to the VOC content limit in table 1 of this subpart for shellacs.

(5) Fire-retardant/resistive coatings that are also recommended for use as any other architectural coating are subject only to the VOC content limit in table 1 of this subpart for fire-retardant/resistive coatings.

(6) Pretreatment wash primers that are also recommended for use as primers or that meet the definition for industrial maintenance coatings are subject only to the VOC content limit in table 1 of this subpart for pretreatment wash primers.

(7) Industrial maintenance coatings that are also recommended for use as primers, sealers, undercoaters, or mastic texture coatings are subject only to the VOC content limit in table 1 of this subpart for industrial maintenance coatings.

(8) Varnishes and conversion varnishes that are recommended for use as floor coatings are subject only to the VOC content limit in table 1 of this subpart for varnishes and conversion varnishes, respectively.

(9) Anti-graffiti coatings, high temperature coatings, impacted immersion coatings, thermoplastic rubber coatings and mastics, repair and maintenance thermoplastic coatings, and flow coatings that also meet the definition for industrial maintenance coatings are subject only to the VOC content limit in table 1 of this subpart for their respective categories (i.e., they are not subject to the industrial maintenance coatings VOC content limit in table 1 of this subpart).

(10) Waterproofing sealers and treatments that also meet the definition for quick-dry sealers are subject only to the VOC content limit in table 1 of this subpart for waterproofing sealers and treatments.

(11) Sanding sealers that also meet the definition for quick-dry sealers are subject only to the VOC content limit in table 1 of this subpart for sanding sealers.

(12) Nonferrous ornamental metal lacquers and surface protectants that also meet the definition for lacquers are subject only to the VOC content limit in table 1 of this subpart for nonferrous ornamental metal lacquers and surface protectants.

(13) Quick-dry primers, sealers, and undercoaters that also meet the definition for primers and undercoaters are subject only to the VOC content limit in table 1 of this subpart for quick-dry primers, sealers, and undercoaters.

(14) Antenna coatings that also meet the definition for industrial maintenance coatings or primers are subject only to the VOC content limit in table 1 of this subpart for antenna coatings.

(15) Bituminous coatings and mastics that are recommended for use as any other architectural coatings are subject only to the VOC content limit in table 1 of this subpart for bituminous coatings and mastics.

§ 59.403 Exceedance fees.

(a) Except as provided in § 59.404 of this subpart, each manufacturer and importer of any architectural coating subject to the provisions of this subpart may exceed the applicable VOC content limit in table 1 of this subpart for the coating if the manufacturer or importer pays an annual exceedance fee. The exceedance fee must be calculated using the procedures in paragraphs (b) and (c) of this section.

(b) The exceedance fee paid by a manufacturer or importer, which is equal to the sum of the applicable exceedance fees for all coatings, must be calculated using equation 1 as follows:

$$\text{Annual Exceedance Fee} = \sum_{c=1}^{n} \text{Coating Fee}_c \qquad (1)$$

Where:

Annual Exceedance Fee=The total annual exceedance fee for a manufacturer or importer, in dollars.

Coating Fee_c=The annual exceedance fee for each coating (c), for which a fee applies, in dollars.

n=number of coatings to which a fee applies.

(c) The exceedance fee to be paid for each coating must be determined using equation 2 as follows:

$$\text{Coating Fee}_c = \text{Fee Rate} \times \text{Excess VOC} \times \text{Volume Manufactured or Imported} \qquad (2)$$

Where:

Fee Rate = The rate of $0.0028 per gram of excess VOC.

Excess VOC = The VOC content of the coating, or adjusted VOC content of a recycled coating (if applicable), in grams of VOC per liter of coating, minus the applicable VOC content limit from table 1 of this subpart (that is, VOC content of the coating minus VOC content limit).

Volume Manufactured or Imported = The volume of the coating manufactured or imported per year, in liters, excluding any volume for which a tonnage exemption is claimed under § 59.404 of this subpart.

(d) The exceedance fee shall be paid no later than 2 months after the end of the calendar year in which the coatings are manufactured or imported, and shall be sent to the Regional Office of the U.S. Environmental Protection Agency, as listed in § 59.409 of this subpart, that serves the State or Territory in which the corporate headquarters of the manufacturer or importer is located.

§ 59.404 Tonnage exemption.

(a) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart may designate a limited quantity of coatings to be exempt from the VOC content limits in table 1 of this subpart and the exceedance fee provisions of § 59.403 of this subpart, provided all of the requirements in paragraphs (a)(1) through (a)(4) of this section are met.

(1) The total amount of VOC contained in all the coatings selected for exemption must be equal to or less than 23 megagrams (25 tons) for the period of time from September 13, 1999 through December 31, 2000; 18 megagrams (20 tons) in the year 2001; and 9 megagams (10 tons) per year in the year 2002 and each subsequent year. The amount of VOC contained in each coating shall be calculated using the procedure in paragraph (b) of this section.

(2) The container labeling requirements of § 59.405 of this subpart.

(3) The recordkeeping requirements of § 59.407(c) of this subpart.

(4) The reporting requirements of § 59.408(b), (e), and (f) of this subpart.

(b) Each manufacturer and importer choosing to use the exemption

described in paragraph (a) of this section must use equations 3 and 4 to calculate the total amount of VOC for each time period the exemption is elected.

$$\text{Total VOC} = \sum_{c=1}^{n} VOC_c \qquad (3)$$

Where:

Total VOC = Total megagrams of VOC contained in all coatings being claimed under the exemption.

VOC_c = The amount of VOC, in megagrams, for each coating (c) claimed under the exemption, as computed by equation 4.

n = Number of coatings for which exemption is claimed.

$$VOC_c = (\text{Volume Manufactured or Imported}) * (\text{VOC Content}) / 1 \times 10^6 \qquad (4)$$

Where:

Volume Manufactured or Imported = Volume of the coating manufactured or imported, in liters, for the time period the exemption is claimed.

VOC Content = VOC content of the coating in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water, exempt compounds, or colorant added to tint bases.

§ 59.405 Container labeling requirements.

(a) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall provide the information listed in paragraphs (a)(1) through (a)(3) of this section on the coating container in which the coating is sold or distributed.

(1) The date the coating was manufactured, or a date code representing the date shall be indicated on the label, lid, or bottom of the container.

(2) A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.

(3) The VOC content of the coating as described in paragraph (a)(3)(i) or (a)(3)(ii) of this section shall be indicated on the label or lid of the container.

(i) The VOC content of the coating, displayed in units of grams of VOC per liter of coating; or

(ii) The VOC content limit in table 1 of this subpart with which the coating is required to comply and does comply, displayed in units of grams of VOC per liter of coating.

(b) In addition to the information specified in paragraph (a) of this section, each manufacturer and importer of any industrial maintenance coating subject to the provisions of this subpart shall display on the label or lid of the container in which the coating is sold or distributed one or more of the descriptions listed in paragraphs (b)(1) through (b)(4) of this section.

(1) ''For industrial use only.''

(2) ''For professional use only.''

(3) ''Not for residential use'' or ''Not intended for residential use.''

(4) ''This coating is intended for use under the following condition(s):'' (Include each condition in paragraphs (b)(4)(i) through (b)(4)(v) of this section that applies to the coating.)

(i) Immersion in water, wastewater, or chemical solutions (aqueous and nonaqueous solutions), or chronic exposure of interior surfaces to moisture condensation;

(ii) Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;

(iii) Repeated exposure to temperatures above 120° C (250° F);

(iv) Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or

(v) Exterior exposure of metal structures and structural components.

(c) In addition to the information specified in paragraph (a) of this section, each manufacturer and importer of any recycled coating who calculates the VOC content using equations 7 and 8 in § 59.406(a)(3) of this subpart shall include the following statement indicating the post-consumer coating content on the label or lid of the container in which the coating is sold or distributed: ''CONTAINS NOT LESS THAN X PERCENT BY VOLUME POST-CONSUMER COATING,'' where ''X'' is replaced by the percent by volume of post-consumer architectural coating.

§ 59.406 Compliance provisions.

(a) For the purpose of determining compliance with the VOC content limits in table 1 of this subpart, each manufacturer and importer shall determine the VOC content of a coating using the procedures described in paragraph (a)(1), (a)(2), or (a)(3) of this section, as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured or imported.

(1) With the exception of low solids stains and low solids wood preservatives, determine the VOC content in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water and exempt compounds. Calculate the VOC content using equation 5 as follows:

$$\text{VOC Content} = \frac{(W_s - W_w - W_{ec})}{(V_m - V_w - V_{ec})} \qquad (5)$$

Where:

VOC content = grams of VOC per liter of coating

W_s = weight of volatiles, in grams

W_w = weight of water, in grams

W_{ec} = weight of exempt compounds, in grams

V_m = volume of coating, in liters

V_w = volume of water, in liters

V_{ec} = volume of exempt compounds, in liters

(2) For low solids stains and low solids wood preservatives, determine the VOC content in units of grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds. Calculate the VOC content using equation 6 as follows:

$$\text{VOC Content}_{ls} = \frac{(W_s - W_w - W_{ec})}{(V_m)} \qquad (6)$$

Where:

VOC content $_{1s}$ = the VOC content of a low solids coating in grams of VOC per liter of coating

W_s = weight of volatiles, in grams

W_w = weight of water, in grams

W_{ec} = weight of exempt compounds, in grams

V_m = volume of coating, in liters

(3) For recycled coatings, the manufacturer or importer has the option of calculating an adjusted VOC content to account for the post-consumer

coating content. If this option is used, the manufacturer or importer shall determine the adjusted VOC content using equations 7 and 8 as follows:

$$\text{Adjusted VOC Content} = \text{Actual VOC Content} - \left(\text{Actual VOC Content}\left(\frac{\text{Percent Post-consumer Coating}}{100}\right)\right) \quad (7)$$

Where:

Adjusted VOC content = The VOC content assigned to the recycled coating for purposes of complying with the VOC content limits in table 1 of this subpart.

Actual VOC content = The VOC content of the coating as determined using equation 5 in paragraph (a)(1) of this section.

Percent Post-consumer Coating = The volume percent of a recycled coating that is post-consumer coating materials (as determined in equation 8)

$$\text{Percent Post-consumer Coating} = \frac{\text{Volume of Post-consumer Coating}}{(\text{Volume of Post-consumer Coating} + \text{Volume of Virgin Materials})} \times 100 \text{ Percent} \quad (8)$$

Where:

Percent Post-consumer Coating = The volume percent of a recycled coating that is post-consumer coating materials.

Volume of Post-consumer Coating = The volume, in liters, of post-consumer coating materials used in the production of a recycled coating.

Volume of Virgin Materials = The volume, in liters, of virgin coating materials used in the production of a recycled coating.

(b) To determine the composition of a coating in order to perform the calculations in paragraph (a) of this section, the reference method for VOC content is Method 24 of appendix A of 40 CFR part 60, except as provided in paragraphs (c) and (d) of this section. To determine the VOC content of a coating, the manufacturer or importer may use Method 24 of appendix A of 40 CFR part 60, an alternative method as provided in paragraph (c) of this section, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended (e.g., quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern, except as provided in paragraph (c) of this section. The Administrator may require the manufacturer or importer to conduct a Method 24 analysis.

(c) The Administrator may approve, on a case-by-case basis, a manufacturer's or importer's use of an alternative method in lieu of Method 24 for determining the VOC content of coatings if the alternative method is demonstrated to the Administrator's satisfaction to provide results that are acceptable for purposes of determining compliance with this subpart.

(d) Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to the procedures specified in appendix A to this subpart. Appendix A to this subpart is a modification of Method 24 of appendix A of 40 CFR part 60. The modification of Method 24 provided in appendix A to this subpart has not been approved for methacrylate multicomponent coatings used for other purposes than as traffic marking coatings or for other classes of multicomponent coatings.

(e) The Administrator may determine a manufacturer's or importer's compliance with the provisions of this subpart based on information required by this subpart (including the records and reports required by §§ 59.407 and 59.408 of this subpart) or any other information available to the Administrator.

§ 59.407 Recordkeeping requirements.

(a) Each manufacturer and importer using the provisions of § 59.406(a)(3) of this subpart to determine the VOC content of a recycled coating shall maintain in written or electronic form records of the information specified in paragraphs (a)(1) through (a)(6) of this section for a period of 3 years.

(1) The minimum volume percent post-consumer coating content for each recycled coating.

(2) The volume of post-consumer coating received for recycling.

(3) The volume of post-consumer coating received that was unusable.

(4) The volume of virgin materials.

(5) The volume of the final recycled coating manufactured or imported.

(6) Calculations of the adjusted VOC content as determined using equation 7 in § 59.406(a)(3) of this subpart for each recycled coating.

(b) Each manufacturer and importer using the exceedance fee provisions in § 59.403 of this subpart, as an alternative to achieving the VOC content limits in table 1 of this subpart, shall maintain in written or electronic form the records specified in paragraphs (b)(1) through (b)(7) of this section for a period of 3 years.

(1) A list of the coatings and the associated coating categories in table 1 of this subpart for which the exceedance fee is used.

(2) Calculations of the annual fee for each coating and the total annual fee for all coatings using the procedure in § 59.403 (b) and (c) of this subpart.

(3) The VOC content of each coating in grams of VOC per liter of coating.

(4) The excess VOC content of each coating in grams of VOC per liter of coating.

(5) The total volume of each coating manufactured or imported per calendar year in liters of coating, excluding the volume of any water and exempt compounds.

(6) The annual fee for each coating.

(7) The total annual fee for all coatings.

(c) Each manufacturer and importer claiming the tonnage exemption in § 59.404 of this subpart shall maintain in written or electronic form the records specified in paragraphs (c)(1) through (c)(4) of this section for a period of 3 years.

(1) A list of all coatings and associated coating categories in table 1 of this subpart for which the exemption is claimed.

(2) The VOC content, in grams of VOC per liter of coating, including water, of each coating for which the exemption is claimed.

(3) The planned and actual sales, in liters, for each coating for which the exemption is claimed for the time period the exemption is claimed.

(4) The total megagrams of VOC contained in each coating for which the

exemption is claimed, and for all coatings combined for which the exemption is claimed, for the time period the exemption is claimed, as calculated in § 59.404(b) of this subpart.

§ 59.408 Reporting requirements.

(a) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit reports and exceedance fees specified in this section to the appropriate address as listed in § 59.409 of this subpart.

(b) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit an initial notification report no later than September 13, 1999 or within 180 days after the date that the first architectural coating is manufactured or imported, whichever is later. The initial report must include the information in paragraphs (b)(1) through (b)(3) of this section.

(1) The name and mailing address of the manufacturer or importer.

(2) The street address of each one of the manufacturer's or importer's facilities in the United States that is producing, packaging, or repackaging any architectural coating subject to the provisions of this subpart.

(3) A list of the categories from table 1 of this subpart for which the manufacturer's or importer's coatings meet the definitions in § 59.401 of this subpart.

(4) If a date code is used on a coating container to represent the date a coating was manufactured, as allowed in § 59.405(a)(1) of this subpart, the manufacturer or importer of the coating shall include an explanation of each date code in the initial notification report and shall submit an explanation of any new date code no later than 30 days after the new date code is first used on the container for a coating.

(c) Each manufacturer and importer of a recycled coating that chooses to determine the adjusted VOC content according to the provisions of § 59.406(a)(3) to demonstrate compliance with the applicable VOC content limit in table 1 of this subpart shall submit a report containing the information in paragraphs (c)(1) through (c)(5) of this section. The report must be submitted for each coating for which the adjusted VOC content is used to demonstrate compliance. This report must be submitted by March 1 of the year following any calendar year in which the adjusted VOC content provision is used.

(1) The minimum volume percent post-consumer coating content for each recycled coating.

(2) The volume of post-consumer coating received for recycling.

(3) The volume of post-consumer coating received that was unusable.

(4) The volume of virgin materials used.

(5) The volume of the final recycled coating manufactured or imported.

(d) Each manufacturer and importer that uses the exceedance fee provisions of § 59.403 of this subpart shall report the information in paragraphs (d)(1) through (d)(7) of this section for each coating for which the exceedance fee provisions are used. This report and the exceedance fee payment must be submitted by March 1 following the calendar year in which the coating is manufactured or imported.

(1) Manufacturer's or importer's name and mailing address.

(2) A list of all coatings and the associated coating categories in table 1 of this subpart for which the exceedance fee provision is being used.

(3) The VOC content of each coating that exceeds the applicable VOC content limit in table 1 of this subpart.

(4) The excess VOC content of each coating in grams of VOC per liter of coating.

(5) The total volume of each coating manufactured or imported per calendar year, in liters.

(6) The annual fee for each coating.

(7) The total annual fee for all coatings.

(e) Each manufacturer and importer of architectural coatings for which a tonnage exemption under § 59.404 of this subpart is claimed shall submit a report no later than March 1 of the year following the calendar year in which the exemption was claimed. The report must include the information in paragraphs (f)(1) through (f)(4) of this section.

(1) A list of all coatings and the associated coating categories in table 1 of this subpart for which the exemption was claimed.

(2) The VOC content, in grams of VOC per liter of coating, including water, of each coating for which the exemption was claimed.

(3) The actual sales, in liters, for each coating for which the exemption was claimed for the time period the exemption was claimed.

(4) The total megagrams of VOC contained in all coatings for which the exemption was claimed for the time period the exemption was claimed, as calculated in § 59.404(b) of this subpart.

§ 59.409 Addresses of EPA Regional Offices.

Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit all requests, reports, submittals, exceedance fee payments, and other communications to the Administrator pursuant to this regulation to the Regional Office of the U.S. Environmental Protection Agency that serves the State or Territory in which the corporate headquarters of the manufacturer or importer resides. These areas are indicated in the following list of EPA Regional Offices:

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), Director, Office of Environmental Stewardship, Mailcode: SAA, J.F.K. Federal Building, Boston, MA 02203–2211.

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Division of Environmental Planning and Protection, 290 Broadway, New York, NY 10007–1866.

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103.

EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), Director, Air, Pesticides, and Toxics Management Division, 61 Forsyth Street, Atlanta, GA 30303.

EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, IL 60604–3507.

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas), Director, Multimedia Planning and Permitting Division, 1445 Ross Avenue, Dallas, TX 75202–2733.

EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air, RCRA, and Toxics Division, 726 Minnesota Avenue, Kansas City, KS 66101.

EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming), Director, Office of Partnerships and Regulatory Assistance, 999 18th Street, Suite 500, Denver, Colorado 80202–2466.

EPA Region IX (American Samoa, Arizona, California, Guam, Hawaii, Nevada), Director, Air Division, 75 Hawthorne Street, San Francisco, CA 94105.

EPA Region X (Alaska, Oregon, Idaho, Washington), Director, Office of Air Quality, 1200 Sixth Avenue, Seattle, WA 98101.

§ 59.410 State authority.

The provisions of this subpart must not be construed in any manner to preclude any State or political subdivision thereof from:

(a) Adopting and enforcing any emissions standard or limitation applicable to a manufacturer or importer of architectural coatings; or

(b) Requiring the manufacturer or importer of architectural coatings to obtain permits, licenses, or approvals prior to initiating construction,

modification, or operation of a facility for manufacturing an architectural coating.

§ 59.411 Circumvention.

Each manufacturer and importer of any architectural coating subject to the provisions of this subpart must not alter, destroy, or falsify any record or report, to conceal what would otherwise be noncompliance with this subpart. Such concealment includes, but is not limited to, refusing to provide the Administrator access to all required records and date-coding information, altering the VOC content of a coating batch, or altering the results of any required tests to determine VOC content.

§ 59.412 Incorporations by reference.

(a) The materials listed in this section are incorporated by reference in the paragraphs noted in § 59.401. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any changes in these materials will be published in the **Federal Register**. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC; at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M Street, SW, Washington, DC 20460; and at the EPA Library (MD–35), U.S. EPA, Research Triangle Park, North Carolina.

(b) The materials listed below are available for purchase at the following address: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

(1) ASTM Method C 1315–95, Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete, incorporation by reference approved for § 59.401, *Concrete curing and sealing compound.*

(2) ASTM Method D 523–89, Standard Test Method for Specular Gloss, incorporation by reference approved for § 59.401, *Flat coating* and *Nonflat coating.*

(3) ASTM Method D 1640–83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature, incorporation by reference approved for § 59.401, *Quick-dry enamel* and *Quick-dry primer, sealer, and undercoater.*

(4) ASTM Method D 3912–80 (Reapproved 1989), Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, incorporation by reference approved for § 59.401, *Nuclear coating.*

(5) ASTM Method D 4082–89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, incorporation by reference approved for § 59.401, *Nuclear coating.*

(c) The following material is available from the AAMA, 1827 Walden Office Square, Suite 104, Schaumburg, IL 60173.

(1) AAMA 605–98, Voluntary Specification Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels, incorporation by reference approved for § 59.401, *Extreme high durability coating.*

(2) [Reserved]

§ 59.413 Availability of information and confidentiality.

(a) *Availability of information.* The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) *Confidentiality.* All confidential business information entitled to protection under section 114(c) of the Act that must be submitted or maintained by each manufacturer or importer of architectural coatings pursuant to this section shall be treated in accordance with 40 CFR part 2, subpart B.

Appendix A to Subpart D—Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings

1.0 Principle and Applicability

1.1 Applicability. This modification to Method 24 of appendix A of 40 CFR part 60 applies to the determination of volatile matter content of methacrylate multicomponent coatings used as traffic marking coatings.

1.2 Principle. A known amount of methacrylate multicomponent coating is dispersed in a weighing dish using a stirring device before the volatile matter is removed by heating in an oven.

2.0 Procedure

2.1 Prepare about 100 milliliters (mL) of sample by mixing the components in a storage container, such as a glass jar with a screw top or a metal can with a cap. The storage container should be just large enough to hold the mixture. Combine the components (by weight or volume) in the ratio recommended by the manufacturer. Tightly close the container between additions and during mixing to prevent loss of volatile materials. Most manufacturers' mixing instructions are by volume. Because of possible error caused by expansion of the liquid when measuring the volume, it is recommended that the components be combined by weight. When weight is used to combine the components and the manufacturer's recommended ratio is by volume, the density must be determined by section 3.5 of Method 24 of appendix A of 40 CFR part 60.

2.2 Immediately after mixing, take aliquots from this 100 mL sample for determination of the total volatile content, water content, and density. To determine water content, follow section 3.4 of Method 24 of appendix A of 40 CFR part 60. To determine density, follow section 3.5 of Method 24. To determine total volatile content, use the apparatus and reagents described in section 3.8.2 of Method 24 and the following procedures:

2.2.1 Weigh and record the weight of an aluminum foil weighing dish and a metal paper clip. Using a syringe as specified in section 3.8.2.1 of Method 24, weigh to 1 milligrams (mg), by difference, a sample of coating into the weighing dish. For methacrylate multicomponent coatings used for traffic marking use 3.0 ± 0.1 g.

2.2.2 Add the specimen and use the metal paper clip to disperse the specimen over the surface of the weighing dish. If the material forms a lump that cannot be dispersed, discard the specimen and prepare a new one. Similarly, prepare a duplicate. The sample shall stand for a minimum of 1 hour, but no more than 24 hours before being oven dried at 110 ± 5 degrees Celsius for 1 hour.

2.2.3 Heat the aluminum foil dishes containing the dispersed specimens in the forced draft oven for 60 minutes at 110 ± 5 degrees Celsius. Caution—provide adequate ventilation, consistent with accepted laboratory practice, to prevent solvent vapors from accumulating to a dangerous level.

2.2.4 Remove the dishes from the oven, place immediately in a desiccator, cool to ambient temperature, and weigh to within 1 mg. After weighing, break up the film of the coating using the metal paper clip. Weigh dish to within 1 mg. Return to forced draft oven for an additional 60 minutes at 110 ± 5 degrees Celsius.

2.2.5 Remove the dishes from the oven, place immediately in a desiccator, cool to ambient temperature, and weigh to within 1 mg.

2.2.6 Run analyses in pairs (duplicate sets for each coating mixture until the criterion in section 4.3 of Method 24 of appendix A of 40 CFR part 60 is met. Calculate the weight of volatile matter for each heating period following Equation 24–2 of Method 24 and record the arithmetic average. Add the arithmetic average for the two heating periods to obtain the weight fraction of the volatile matter.

3.0 Data Validation Procedure

3.1 Follow the procedures in Section 4 of Method 24 of appendix A to 40 CFR part 60.

3.2 If more than 10 percent of the sample is lost when the sample is being broken up in 2.2.4, the sample is invalid.

4.0 Calculations

Follow the calculation procedures in Section 5 of Method 24 of appendix A of 40 CFR part 60.

TABLE 1 TO SUBPART D.—VOLATILE ORGANIC COMPOUND (VOC), CONTENT LIMITS FOR ARCHITECTURAL COATINGS

[Unless otherwise specified, limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation excluding the volume of any water, exempt compounds, or colorant added to tint bases.]

Coating category	Grams VOC per liter	Pounds VOC per gallon [a]
Antenna coatings	530	4.4
Anti-fouling coatings	450	3.3
Anti-graffiti coatings	600	5.0
Bituminous coatings and mastics	500	4.2
Bond breakers	600	5.0
Calcimine recoater	475	4.0
Chalkboard resurfacers	450	3.8
Concrete curing compounds	350	2.9
Concrete curing and sealing compounds	700	5.8
Concrete protective coatings	400	3.3
Concrete surface retarders	780	6.5
Conversion varnish	725	6.0
Dry fog coatings	400	3.3
Extreme high durability coatings	800	6.7
Faux finishing/glazing	700	5.8
Fire-retardant/resistive coatings:		
Clear	850	7.1
Opaque	450	3.8
Flat coatings:		
Exterior coatings	250	2.1
Interior coatings	250	2.1
Floor coatings	400	3.3
Flow coatings	650	5.4
Form release compounds	450	3.8
Graphic arts coatings (sign paints)	500	4.2
Heat reactive coatings	420	3.5
High temperature coatings	650	5.4
Impacted immersion coatings	780	6.5
Industrial maintenance coatings	450	3.8
Lacquers (including lacquer sanding sealers)	680	5.7
Magnesite cement coatings	600	5.0
Mastic texture coatings	300	2.5
Metallic pigmented coatings	500	4.2
Multi-colored coatings	580	4.8
Nonferrous ornamental metal lacquers and surface protectants	870	7.3
Nonflat coatings:		
Exterior coatings	380	3.2
Interior coatings	380	3.2
Nuclear coatings	450	3.8
Pretreatment wash primers	780	6.5
Primers and undercoaters	350	2.9
Quick-dry coatings:		
Enamels	450	3.8
Primers, sealers, and undercoaters	450	3.8
Repair and maintenance thermoplastic coatings	650	5.4
Roof coatings	250	2.1
Rust preventative coatings	400	3.3
Sanding sealers (other than lacquer sanding sealers)	550	4.6
Sealers (including interior clear wood sealers)	400	3.3
Shellacs:		
Clear	730	6.1
Opaque	550	4.6
Stains:		
Clear and semitransparent	550	4.6
Opaque	350	2.9
Low solids	[b] 120	[b] 1.0
Stain controllers	720	6.0
Swimming pool coatings	600	5.0
Thermoplastic rubber coatings and mastics	550	4.6
Traffic marking coatings	150	1.3
Varnishes	450	3.8
Waterproofing sealers and treatments	600	5.0
Wood preservatives:		
Below ground wood preservatives	550	4.6

TABLE 1 TO SUBPART D.—VOLATILE ORGANIC COMPOUND (VOC), CONTENT LIMITS FOR ARCHITECTURAL COATINGS—Continued

[Unless otherwise specified, limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation excluding the volume of any water, exempt compounds, or colorant added to tint bases.]

Coating category	Grams VOC per liter	Pounds VOC per gallon [a]
Clear and semitransparent	550	4.6
Opaque	350	2.9
Low solids	[b] 120	[b] 1.0
Zone marking coatings	450	3.8

[a] English units are provided for information only. Compliance will be determined based on the VOC content limit, as expressed in metric units.
[b] Units are grams of VOC per liter (pounds of VOC per gallon) of coating, including water and exempt compounds, thinned to the maximum thinning recommended by the manufacturer.

[FR Doc. 98–22659 Filed 9–10–98; 8:45 am]

BILLING CODE 6560–50–p

APPENDIX A (Continued)

Final rule, corrections and amendments. National Volatile Organic Compound Emissions Standards for Architectural Coatings; Correction
(40 CFR part 59, subpart D, 64 FR 34997, June 30, 1999)

To determine whether EPA has published any changes to this regulation, browse the list of CFR sections affected at:

http://www.access.gpo/nara/lsa/browslsa.html

1.46. Section 165.100 is also issued under authority of Sec. 311, Pub.L. 105–383.

2. Add temporary § 165.T01–CGD1–095 to read as follows:

§ 165.T01–CGD1–095 Fenwick Fireworks Display, Old Saybrook, Long Island Sound.

(a) *Location.* The safety zone includes all waters of Long Island Sound within a 600 foot radius of the launch barge located off of Fenwick Pier, Old Saybrook, CT. in approximate position 41°16′ N, 072°23′ W (NAD 1983).

(b) *Effective date.* This section is effective on July 3, 1999, from 8:45 p.m. until 10:00 p.m. In case of inclement weather, the rain date will be July 4, 1999, at the same time and place.

(c)(1) *Regulations.* The general regulations covering safety zones contained in § 165.23 of this part apply.

(2) All persons and vessels shall comply with the instructions of the Coast Guard Captain of the Port or the designated on scene patrol personnel. U.S. Coast Guard patrol personnel include commissioned, warrant, and petty officers of the Coast Guard. Upon being hailed by a U.S. Coast Guard Vessel via siren, radio, flashing light, or other means, the operator of a vessel shall proceed as directed.

Dated: June 21, 1999.

P.K. Mitchell,

Captain, U.S. Coast Guard, Captain of the Port, Long Island Sound.

[FR Doc. 99–16665 Filed 6–29–99; 8:45 am]

BILLING CODE 4910–15–M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9 and 59

[AD–FRL–6368–7]

RIN 2060–AE55

National Volatile Organic Compound Emission Standards for Architectural Coatings; Correction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; corrections and amendments.

SUMMARY: On September 11, 1998 (63 FR 48848), EPA published the ''National Volatile Organic Compound Emission Standards for Architectural Coatings'' under the authority of section 183(e) of the Clean Air Act (Act). In today's action, we're issuing technical corrections and clarifications for that rule. Today's action won't change the volatile organic compound (VOC content limits for architectural coatings or the level of health protection that the rule provides. In compliance with the Paperwork Reduction Act (PRA), today's action also amends the table that lists the Office of Management and Budget (OMB) control numbers issued under the PRA for the architectural coatings regulation.

DATES: The effective date is June 30, 1999.

ADDRESSES: *Technical Support Documents.* The promulgated regulation is supported by two background information documents: one specific to the architectural coatings rule, and one that addresses comments on the study and Report to Congress under section 183(e). You can obtain both documents from the docket for the architectural coatings rule (see below); through the Internet at http://www.epa.gov/ttn/uatw/183e/aim/aimpg.html; or from the U.S. Environmental Protection Agency Library (MD–35), Research Triangle Park, North Carolina 27711, telephone (919) 541–2777. Please refer to ''National Volatile Organic Compound Emission Standards for Architectural Coatings—Background for Promulgated Standards,'' EPA–453/R–98–006b, or ''Response to Comments on Section 183(e) Study and Report to Congress,'' EPA–453/R–98–007.

Docket. Docket No. A–92–18 contains information considered by EPA in developing the promulgated standards and this action. You can inspect the docket and copy materials from 8 a.m. to 5:30 p.m., Monday through Friday, excluding legal holidays. The docket is located at the EPA's Air and Radiation Docket and Information Center, Waterside Mall, Room M1500, 1st Floor, 401 M Street, SW, Washington, DC 20460; telephone (202) 260–7548 or fax (202) 260–4400. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Ms. Linda Herring at (919) 541–5358, Coatings and Consumer Products Group, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711 (herring.linda@epa.gov). Any correspondence related to compliance with this rule must be submitted to the appropriate EPA Regional Office listed in § 59.409 of 40 CFR Part 59 (see 63 FR 48848, September 11, 1998).

SUPPLEMENTARY INFORMATION: *Regulated Entities.* You may be affected by these rule amendments if you fall into one of the categories in the following table.

Category	NAICS code	SIC code	Examples of regulated entities
Industry	32551 325510	2851	Manufacturers (which includes packagers and repackagers) and importers of architectural coatings that are manufactured for sale or distribution in the U.S., including all U.S. territories.
State/local/tribal governments.			State Departments of Transportation that manufacture their own coatings.

Architectural coatings are coatings that are recommended for field application to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs.

Use this table only as a guide because this action may also regulate other entities. To determine if it regulates your facility, business, or organization, carefully examine the applicability criteria in § 59.400 of 40 CFR part 59. If you have questions about how it applies, contact Linda Herring (see **FOR FURTHER INFORMATION CONTACT** section of this preamble).

I. Technical Corrections

The EPA published in the **Federal Register** of September 11, 1998 (63 FR 48848), the final rule regulating VOC emissions from architectural coatings. The preamble and rule (FR Doc. 98–22659) contain errors and require clarification. Thus, we're correcting and clarifying the rule as follows.

1. We are adding a definition for the term ''megagram'' to § 59.401. We are adding this definition at the request of some regulated entities to assist them in understanding and applying the units of measure used in the rule.

2. We are correcting § 59.402(a) by adding a sentence to the end of paragraph (a) to clarify that we'll use

metric units, rather than English units, to determine compliance.

3. We are correcting § 59.402(c)(1), (c)(3) through (c)(8), and (c)(15), to use consistent terminology throughout the section. We are removing the phrases ''are also recommended for use as'' and ''are recommended for use as,'' and replacing them with the phrase ''also meet the definition for.''

4. We are correcting § 59.402(c)(13) by adding the word ''sealers,'' which we omitted by mistake in the published rule.

5. We are adding a paragraph (16) to § 59.402(c). This addition corrects an inadvertent overlap between the definitions for zone marking coating and traffic marking coating.

6. We are adding a paragraph (17) to § 59.402(c). This addition corrects an inadvertent overlap between the definitions for rust preventative coatings and primers and undercoaters.

7. We are correcting the definition for the term ''Volume Manufactured or Imported'' in equation 2, which is referenced in § 59.403(c). This change clarifies that for the exceedance fee, you must include the volume of any water and exempt compounds in the coating and exclude the volume of colorant added to tint bases when calculating the volume manufactured or imported.

8. We are adding a sentence to the end of § 59.404(a)(1). This addition clarifies that you must use metric units, not English units, to determine compliance.

9. We are correcting § 59.404(a)(4) by removing the erroneous cross-reference to § 59.408(f), which does not exist.

10. We are adding a sentence to the end of § 59.404(b) to clarify that the VOC amount used in the tonnage exemption calculations excludes the volume of any colorant added to tint bases.

11. We are correcting the definition for the term ''VOC_C'' in equation 3, which is referenced in § 59.404(b). This change is necessary to be consistent with the clarifying changes to the terms used in equation 4, described in change numbers 12 and 14 below. The change is intended to distinguish between the term ''VOC_C'' and the new term ''VOC Amount'' in equation 4.

12. We are replacing the term ''VOC Content'' with ''VOC Amount'' in equation 4, which is referenced in § 59.404(b). We're replacing the term ''VOC Content'' with ''VOC Amount'' to distinguish this term from the term ''VOC Content.'' The term ''VOC Amount'' in equation 4 is used only for calculating the grams VOC per liter of each coating claimed under the tonnage exemption. The VOC amount in equation 4 includes the volume of water and exempt compounds (see change number 13 below). The ''VOC Content'' in § 59.406 is used for calculating the trams VOC per liter of each coating to determine compliance with the VOC content limits. The VOC content in § 59.406 excludes the volume of any water and exempt compounds, except for low solids stains and low solids wood preservatives.

13. We are correcting the definition for the term ''Volume Manufactured or Imported'' in equation 4, which is referenced in § 59.404(b), to clarify that for the tonnage exemption, the volume of coating is calculated including the volume of any water and exempt compounds, and excluding the volume of any colorant added to tint bases.

14. We are removing the term and definition of ''VOC Content'' in equation 4, which is referenced in § 59.404(b), and replacing it with the term and definition of ''VOC Amount.'' We're adding a definition for the new term ''VOC Amount'' to clarify that for the tonnage exemption, you determine the VOC amount by calculating the grams of VOC in each liter of coating including the volume of any water and exempt compounds. Colorant added to tint bases is not included in this calculation, and the reference to it in the final rule which we are correcting was in error.

15. We are correcting § 59.405(a)(3)(i) and (ii) to allow you to label the VOC content in either metric or English units.

16. We are correcting § 59.407(b)(5) to make this paragraph concerning recordkeeping for the exceedance fee consistent with the definition of ''Volume Manufactured or Imported'' in Equation 2.

17. We are correcting § 59.407(c)(2) to make this paragraph concerning recordkeeping for the tonnage exemption consistent with the definition for ''VOC Amount'' in equation 4.

18. We are correcting § 59.407(c)(3), to reflect EPA's intent for the tonnage exemption: Records must be kept of the volume of coating manufactured or imported, not the sales volume.

19. We are correcting the first sentence of § 59.408(b) to reflect EPA's intent that the deadline for submitting the initial notification report for coatings registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) is March 13, 2000; and the deadline for submitting the report for all other coatings subject to the rule is September 13, 1999.

20. We are correcting § 59.408(d)(5) to make this paragraph concerning reporting for the exceedance fee consistent with the revised definition for ''Volume Manufactured or Imported'' in equation 2.

21. We are correcting § 59.408(e)(2) to make this paragraph concerning reporting for the tonnage exemption consistent with the definition for ''VOC Amount'' in equation 4.

22. We are correcting § 59.408(e)(3) to reflect EPA's intent that reports be submitted for the volume of coating manufactured or imported, not the sales volume.

23. We are correcting the addresses for EPA Regional Offices. These are administrative changes of addresses of EPA Regional Offices necessary to ensure that submittals by regulated entities reach the correct EPA address.

24. In the third column of table to Subpart D—Volatile Organic Compound (VOC) Content Limits for Architectural Coatings, for Anti-fouling coatings, we are correcting the number of pounds VOC per gallon to read ''3.8.'' The number ''3.3'' was a typographical error.

We're making these technical corrections effective immediately. By issuing these technical corrections directly as a final rule, we're foregoing an opportunity for public comment on a notice of proposed rulemaking. Section 553(b) of title 5 of the United States Code (U.S.C.) and section 307(b) of the Act permit an agency to forego notice and comment when ''the Agency for good cause finds (and incorporates the finding and brief statement of reasons therefore in the rule issues) that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.'' We find that notice and comment regarding these minor technical corrections are unnecessary because the corrections are not controversial and don't substantively change the requirements of the architectural coatings rule. We find that this constitutes good cause under 5 U.S.C. 553(b) and section 307(b) of the Act for a determination that the issuance of a notice of proposed rulemaking is unnecessary.

Amendment to 40 CFR Part 9

Today, we're amending the table of currently approved information collection request (ICR) control numbers issued by OMB for various EPA regulations. The amendment updates the table to list those information collection requirements promulgated under the ''National Volatile Organic Compound Emission Standards for Architectural Coatings,'' which appeared in the **Federal Register** on September 11, 1998, at 63 FR 48848. The affected regulations are codified at 40 CFR part 59. We'll continue to present the OMB control numbers in a

consolidated table format to be codified in 40 CFR part 9 of the EPA's regulations, and in each CFR volume containing EPA regulations. The table lists CFR sections with reporting, recordkeeping, or other information collection requirements, and the current OMB control numbers. This listing of the OMB control numbers and their subsequent codification in the CFR satisfy the requirements of the PRA (44 U.S.C. 3501, *et seq.*) and OMB's implementing regulations at 5 CFR part 1320.

The ICR was subject to public notice and comment before OMB's approval. Due to the technical nature of the table, we find there is ''good cause'' under section 553(b)(B) of the Administrative Procedure Act (5 U.S.C. 553(b)(B)) to amend this table without prior notice and comment.

Administrative Requirements

A. Docket

The docket is an organized and complete file of all the information that we considered in developing the rule and today's technical amendments. The docket is a dynamic file, since we add material throughout the rulemaking development. The docketing system allows you to identify and locate documents so you can participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated standards and EPA responses to significant comments, the contents of the docket will serve as the record in case of judicial review (see 42 U.S.C. 7607(d)(7)(A)).

B. Paperwork Reduction Act

The OMB has approved the information collection requirements of the previously promulgated rule under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501, *et seq.*, and has assigned OMB Control Number 2060–0393. A copy of the ICR No. 1750.02 may be obtained from Sandy Farmer, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (2137), 401 M Street, SW, Washington, DC 20460, or by calling (202) 260–2740. The information collection requirements were effective upon OMB's approval on January 8, 1999.

Today's amendments to the rule will have no effect on the estimates of the information collection burden. The technical changes are clarifications of requirements and don't impose additional requirements. Therefore, we haven't revised the ICR.

Today's action amends 40 CFR part 9 by adding the architectural coatings ICR to section 9.1, OMB approvals under the PRA.

C. Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), EPA must determine whether a regulatory action is ''significant'' and therefore subject to OMB review and the requirements of the Executive Order. The Executive Order defines ''significant regulatory action'' is one that is likely to result in a rule that may:

1. Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

The regulation published on September 11, 1998 was considered a ''significant regulatory action'' under criterion (4) above, based on the novel use of economic incentives (an exceedance fee) for this industry. Therefore, EPA submitted the final rule to OMB for review before publication. Today's amendments to the rule include minor technical corrections and clarifications to several rule requirements. Therefore, EPA determined that this action is not significant and does not require OMB review.

D. Executive Order 12875

Under Executive Order 12875, EPA may not issue a regulation that is not required by statute and that creates a mandate upon a State, local, or tribal government, unless the Federal Government provides the funds necessary to pay the direct compliance costs incurred by those governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 12875 requires EPA to provide to the OMB a description of the extent of EPA's prior consultation with representatives of affected State, local, and tribal governments, the nature of their concerns, copies of any written communications from the governments, and a statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires EPA to develop an effective process permitting elected officials and other representatives of State, local, and tribal governments ''to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates.''

In compliance with Executive Order 12875, EPA involved State and local governments in the development of the rule published on September 11, 1998. Today's action does not create a mandate upon State, local, or tribal governments because it clarifies and makes minor technical corrections to several rule requirements and it does not impose any additional requirements. Accordingly, the requirements of section 1(a) of Executive Order 12875 do not apply to this rule.

E. Executive Order 13084

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to OMB, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.''

Today's rule does not significantly or uniquely affect the communities of Indian tribal governments. The EPA is not aware of any tribal governments that manufacture or import architectural coatings. Nevertheless, today's action does not create a mandate upon tribal governments because it clarifies and makes minor technical corrections to several rule requirements and it does not impose any additional requirements. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

F. Regulatory Flexibility Act/Small Business Regulatory Enforcement Fairness Act of 1996

The Regulatory Flexibility Act (RFA) of 1980 (5 U.S.C. 601, *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), requires EPA to give special consideration to the effect of Federal regulations on small entities and to consider regulatory options that might mitigate any such impacts. As discussed in the preamble to the rule published on September 11, 1998 (63 FR 48874–48875), EPA prepared analyses to support both the proposed and final rules to meet the requirements of the RFA as modified by SBREFA.

For the reasons discussed in the preamble to the rule, EPA believes that the measures adopted in the final rule will significantly mitigate the economic impacts on small businesses that might otherwise have occurred. Today's action is not subject to the requirements of the RFA as modified by SBREFA because it only makes minor technical corrections and clarifications to some of the rule's requirements and it does not impose any additional requirements.

G. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the last costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule explanation why that alternative was not adopted. Before EPA establishes any regulatory requirement that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that today's action does not include a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector, in any one year. Therefore, the requirements of sections 202 and 205 of the UMRA do not apply to this action. The EPA has likewise determined that today's amendments to the rule do not include regulatory requirements that would significantly or uniquely affect small governments. Thus, today's action is not subject to the requirements of section 203 of the UMRA.

H. Submission to Congress and the General Accounting Office

The Congressional Review Act, 5 U.S.C. § 801, *et seq.*, as added by the SBREFA of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing the rule, its amendments, and other required information to the United States Senate, the United States House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a ''major rule'' as defined by 5 U.S.C. § 804(2).

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104–113, § 12(d) (15 U.S.C. 272 note), directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., material specifications, test methods, sampling procedures, business practices, etc.) that are developed or adopted by voluntary consensus standard bodies. The NTTAA requires EPA to provide Congress, through OMB, explanations when EPA decides not to use available and applicable voluntary consensus standards.

For the reasons discussed in the preamble to the final rule (63 FR 48876), EPA determined that its analytical test method for determining product compliance under the rule is consistent with the requirements of NTTAA. Today's action does not amend or modify the rule's test method and, therefore, the requirements of the NTTAA do not apply.

J. Executive Order 13045

Executive Order 13045, entitled Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997), applies to any rule that EPA determines (1) is economically significant as defined under Executive Order 12866, and (2) for which the environmental health or safety risk addressed by the rule has a disproportionate effect on children. If the regulatory action meets both criteria, EPA must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by EPA.

Today's action is not subject to Executive Order 13045 because it is not an economically significant regulatory action as defined by Executive Order 12866, and it does not address an environmental health or safety risk that would have a disproportionate effect on children.

List of Subjects in 40 CFR Parts 9 and 59

Environmental protection, Air pollution control, Architectural coatings, Consumer and commercial products, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: June 21, 1999.

Robert Perciasepe,

Assistant Administrator for Air and Radiation.

Technical Corrections

The EPA published in the **Federal Register** of September 11, 1998 (63 FR 48848), the final rule regulating VOC emissions from architectural coatings. The preamble and rule (FR Doc. 98–22659) contain errors and require clarification. Thus, we're correcting and clarifying the preamble and rule as follows.

A. In the **Federal Register** issue of September 11, 1998 in FR Doc. 98-22659, on page 48851, second column,

in the last line of the first paragraph in section II.A., correct the date ''March 10, 2000'' to read ''March 13, 2000.''

B. In the rule FR Doc. 98–22659 published on September 11, 1998 (63 FR 48848), make the following corrections.

PART 59—[CORRECTED]

Subpart D—[Corrected]

§ 59.401 [Corrected]

1. On page 48879, in the second column, correct § 59.401 by adding immediately before the definition of *Matallic pigmented coating* the definition for the term ''megagram'' to read as follows. ''*Megagram* means one million grams or 1.102 tons.''

§ 59.402 [Corrected]

2. On page 48880, in the third column, correct § 59.402(a) by adding the following sentence to the end of paragraph (a): ''Compliance with the VOC content limits will be determined based on the VOC content, as expressed in metric units.''

3. On page 48880, in the third column, and page 48881, in the first and third columns, correct § 59.402(c)(1), (c)(3) through (c)(8), and (c)(15), by removing the phrases ''are also recommended for use as'' and ''are recommended for use as,'' and replacing them with the phrase ''also meet the definition for.''

4. On page 48881, in the second column, correct § 59.402(c)(13) to read: ''Quick-dry primers, sealers, and undercoaters that also meet the definition for primers, sealers, or undercoaters are subject only to the VOC content limit in table 1 of this subpart for quick-dry primers, sealers, and undercoaters.''

5. On page 48881, in the third column, add the following new paragraph (c)(16) to § 59.402: ''(16) Zone marking coatings that also meet the definition for traffic marking coatings are subject only to the VOC content limit in table 1 of this subpart for zone marking coatings.''

6. On page 48881, in the third column, add the following new paragraph (c)(17) to § 59.402: ''(17) Rust preventative coatings that also meet the definition for primers or undercoaters are subject only to the VOC content limit in table 1 of this subpart for rust preventative coatings.''

§ 59.403 [Corrected]

7. On page 48881, in the first column, correct the definition for the term ''Volume Manufactured or Imported'' in equation 2, which is referenced in § 59.403(c), to read: ''The volume of the coating manufactured or imported per year, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases. Any volume for which a tonnage exemption in claimed under § 59.404 of this subpart is also excluded.''

§ 59.404 [Corrected]

8. On page 48881, in the third column, add the following sentence to the end of § 59.404(a)(1): ''Compliance with the tonnage exemption will be determined based on the amount of VOC, as expressed in metric units.''

9. On page 48881, in the third column, correct § 59.404(a)(4) to read: ''The reporting requirements of § 59.408(b) and (e) of this subpart.''

10. On page 48882, in the first column, add the following sentence to the end of § 59.404(b): ''The VOC amount shall be determined without colorant that is added after the tint base is manufactured or imported.''

11. On page 48882, in the third column, correct the definition for the term ''VOC_C'' in equation 3, which is referenced in § 59.404(b), to read: ''Megagrams of VOC, for each coating (c) claimed under the exemption, as computed by equation 4.''

12. On page 48882, in equation 4, which is referenced in § 59.404(b), replace the term ''VOC Content'' with ''VOC Amount.''

13. On page 48882, in the first column, correct the definition for the term ''Volume Manufactured or Imported'' in equation 4, which is referenced in § 59.404(b), to read: ''Volume of the coating manufactured or imported, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases, for the time period the exemption is claimed.''

14. On page 48882, in the first column, correct the term and definition of ''VOC Content'' in equation 4, which is referenced in § 59.404(b), to read as follows: ''VOC Amount = Grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds.''

§ 59.405 [Corrected]

15. On page 48882, in the first column, correct § 59.405(a)(3)(i) and (ii) to read:

''(i) The VOC content of the coating, displayed in units of grams of VOC per liter of coating or in units of pounds of VOC per gallon of coating; or

''(ii) The VOC content limit in table 1 of this subpart with which the coating is required to comply and does comply, displayed in units of grams of VOC per liter of coating or in units of pounds of VOC per gallon of coating.''

§ 59.407 [Corrected]

16. On page 48883, in the third column, correct § 59.407(b)(5) to read: ''The total volume of each coating manufactured or imported per calendar year, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases.''

17. On page 48883, in the third column, correct § 59.407(c)(2) to read: ''The VOC amount as used in equation 4.''

18. On page 48883, in the third column, correct § 59.407(c)(3) to read: ''The volume manufactured or imported, in liters, for each coating for which the exemption is claimed for the time period the exemption is claimed.''

§ 59.408 [Corrected]

19. On page 48884, in the first column, correct the first sentence of § 59.408(b) to read: ''Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit an initial notification report no later than the applicable compliance date specified in § 59.400, or within 180 days after the date that the first architectural coating is manufactured or imported, whichever is later.''

20. On page 48884, in the second column, correct § 59.408(d)(5) to read: ''The total volume of each coating manufactured or imported per calendar year, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases.''

21. On page 48884, in the second column, correct § 59.408(e)(2) to read: ''The VOC amount as used in equation 4.''

22. On page 48884, in the second column, correct § 59.408(e)(3) to read: ''The volume manufactured or imported, in liters, for each coating for which the exemption is claimed for the time period the exemption is claimed.''

§ 59.409 [Corrected]

23. On page 48884, in the third column, correct the addresses for EPA Regional Offices as follows:

For Region I, correct the street address by removing ''J.F.K. Federal Building, Boston, MA 02203–2211'' and replacing it with ''One Congress Street, Boston, MA 02114–2023.''

For Region II, correct the name of the division by removing ''Division of Environmental Planning and

Protection'' and replacing it with ''Division of Enforcement and Compliance Assistance.''

For Region VII, correct the street address by removing ''726 Minnesota Avenue'' and replacing it with ''901 North 5th Street.''

Table 1 to Subpart D

24. On page 48886, in the third column of table 1 to Subpart D—Volatile Organic Compound (VOC) Content Limits for Architectural Coatings, for ''Anti-fouling coatings,'' correct the number of pounds VOC per gallon to read ''3.8.''

Amendment to 40 CFR Part 9

For the reasons set out in the preamble, part 9 of title 40 of the Code of Federal Regulations is amended as follows:

PART 9—OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT

1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135, *et seq.*, 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251, *et seq.*, 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971–1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–1, 300j–2, 300j–3, 300j–4, 300j–9, 1857, *et seq.*, 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

2. In § 9.1 amend the table by removing the heading ''National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings'' and add in its place the heading ''National Volatile Organic Compound Emission Standards for Consumer and Commercial Products''; and by adding new entries under the heading in numerical order to read as follows:

§ 9.1 OMB approvals under the Paperwork Reduction Act.

* * * * *

40 CFR citation	OMB control No.
* * * * *	
National Volatile Organic Compound Emission Standards for Consumer and Commercial Products	
* * * * *	
59.405	2060–0393
59.407	2060–0393
59.408	2060–0393
* * * * *	

[FR Doc. 99–16384 Filed 6–29–99; 8:45 am]

BILLING CODE 6560–50–M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[CA 009–130c; FRL–6368–4]

Approval and Promulgation of Implementation Plans; California State Implementation Plan Revision; San Joaquin Valley Unified Air Pollution Control District

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; correction.

SUMMARY: This action redesignates the number of a paragraph in Title 40 of the Code of Federal Regulations that appeared in a direct final rule published in the **Federal Register** on June 3, 1999.

EFFECTIVE DATE: This action is effective on August 2, 1999.

FOR FURTHER INFORMATION CONTACT: Julie A. Rose, Rulemaking Office, Air Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105, Telephone: (415) 744–1184.

SUPPLEMENTARY INFORMATION: On June 3, 1999, at 64 FR 29790, EPA published a direct final rulemaking action approving San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD), Rule 1010 and Rule 1130 of the California State Implementation Plan (SIP). This action contained amendments to 40 CFR part 52, subpart F. The amendments which incorporated material by reference into § 52.220, Identification of plan, paragraph (c)(199)(i)(D)(4) are being redesignated as (c)(199)(i)(D)(5) in this action.

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a ''significant regulatory action'' and, is therefore not subject to review by the Office of Management and Budget. In addition, this action does not impose any enforceable duty or contain any unfunded mandate as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4), or require prior consultation with State officials as specified by Executive Order 12875 (58 FR 58093, October 28, 1993), or involve special consideration of environmental justice related issues as required by Executive Order 12898 (59 FR 7629, February 16, 1994).

Because this action is not subject to notice-and-comment requirements under the Administrative Procedure Act or any other statute, it is not subject to the provisions of the Regulatory Flexibility Act (5 U.S.C. 601 et seq.).

Under 5 U.S.C. 801(a)(1)(A) as added by the Small Business Regulatory Enforcement Fairness Act of 1996, EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives and the Comptroller General of the General Accounting Office prior to publication of this rule in today's **Federal Register**. This rule is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Note: Incorporation by reference of the State Implementation Plan for the State of California was approved by the Director of the **Federal Register** on July 1, 1982.

Dated: June 14, 1999.

David P. Howekamp,

Acting Regional Administrator, Region IX.

Part 52, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52— [AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart F—California

2. Section 52.220 is amended by redesignating the paragraph (c)(199)(i)(D)(*4*) added at 64 FR 29793 on June 3, 1999 as (c)(199)(i)(D)(*5*).

[FR Doc. 99–16386 Filed 6–29–99; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[GA–33–2–9926a; FRL–6368–6]

Approval and Promulgation of Implementation Plans; Georgia: Approval of Revisions to the Georgia State Implementation Plan

AGENCY: Environmental Protection Agency (EPA).

APPENDIX B

Fact sheets for each architectural coating category,
including the definitions and VOC content limit

ANTENNA COATINGS

Definition: A coating formulated and recommended for application to equipment and associated structural appurtenances that are used to receive or transmit electromagnetic signals.

VOC content limit: 530 grams per liter (4.4 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Antenna Coatings	Industrial maintenance	530 g/l for antenna coatings
	Primers	530 g/l for antenna coatings
	Any category other than industrial maintenance or primers	The lowest VOC content limit for any category for which the coating meets the definition

ANTI-FOULING COATINGS

Definition: A coating formulated and recommended for application to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms, including, but not limited to, coatings registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, et seq.) and nontoxic foul-release coatings.

VOC content limit: 450 grams per liter (3.8 pounds per gallons)

If your coating meets the definition for anti-fouling coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

ANTI-GRAFFITI COATINGS

Definition: A clear or opaque high performance coating formulated and recommended for application to interior and exterior walls, doors, partitions, fences, signs, and murals to deter adhesion of graffiti and to resist repeated scrubbing and exposure to harsh solvents, cleansers, or scouring agents used to remove graffiti.

Related definitions:

Clear: Showing light to pass through, so that the substrate may be distinctly seen.

Opaque: Not allowing light to pass through, so that the substrate is concealed from view.

VOC content limit: 600 grams per liter (5.0 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Anti-graffiti coatings	Industrial maintenance	600 g/l for anti-graffiti coatings
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

BITUMINOUS COATINGS & MASTICS

Definition: A coating or mastic formulated and recommended for roofing, pavement sealing, or waterproofing that incorporates bitumens. Bitumens are black or brown materials including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly of hydrocarbons, and are obtained from natural deposits of asphalt or as residues from the distillation of crude petroleum or coal.

VOC content limit: 500 grams per liter (4.2 pounds per gallon)

Bituminous coatings and mastics are always subject to the 500 gram per liter (4.2 pounds per gallon) limit even if they meet the definition of another category.

BOND BREAKERS

Definition: A coating formulated and recommended for application between layers of concrete to prevent a freshly poured top layer of concrete from bonding to the layer over which it is poured.

VOC content limit: 600 grams per liter (5.0 pounds per gallon)

If your coating meets the definition for bond breakers and the definition for other categories, you must comply with the lowest VOC limit of those categories.

CALCIMINE RECOATER

Definition: A flat solventborne coating formulated and recommended specifically for recoating calcimine-painted ceilings and other calcimine-painted substrates.

VOC content limit: 475 grams per liter (4.0 pounds per gallon)

If your coating meets the definition for calcimine recoater and the definition for other categories, you must comply with the lowest VOC limit of those categories.

CHALKBOARD RESURFACERS

Definition: A coating formulated and recommended for application to chalkboards to restore a suitable surface for writing with chalk.

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

If your coating meets the definition for chalkboard resurfacers and the definition for other categories, you must comply with the lowest VOC limit of those categories.

CONCRETE CURING COMPOUNDS

Definition: A coating formulated and recommended for application to freshly placed concrete to retard the evaporation of water.

VOC content limit: 350 grams per liter (2.9 pounds per gallon)

If your coating meets the definition for concrete curing compounds and the definition for other categories, you must comply with the lowest VOC limit of those categories.

CONCRETE CURING AND SEALING COMPOUNDS

Definition: A liquid membrane-forming compound marketed and sold solely for application to concrete surfaces to reduce the loss of water during the hardening process and to seal old and new concrete providing resistance against alkalis, acids, and ultraviolet light, and provide adhesion promotion qualities. The coating must meet the requirements of American Society for Testing and Materials (ASTM) C 1315-95, Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.

VOC content limit: 700 grams per liter (5.8 pounds per gallon)

If your coating meets the definition for concrete curing and sealing compounds and the definition for other categories, you must comply with the lowest VOC limit of those categories.

CONCRETE PROTECTIVE COATINGS

Definition: A high-build coating, formulated and recommended for application in a single coat over concrete, plaster, or other cementitious surfaces. These coatings are formulated to be primerless, one-coat systems that can be applied over form oils and/or uncured concrete. These coatings prevent spilling of concrete in freezing temperatures by providing long-term protection from water and chloride ion intrusion.

VOC content limit: 400 grams per liter (3.3 pounds per gallon)

If your coating meets the definition for concrete protective coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

CONCRETE SURFACE RETARDERS

Definition: A mixture of retarding ingredients such as extender pigments, primary pigments, resin, and solvent that interact chemically with the cement to prevent hardening on the surface where the retarder is applied, allowing the retarded mix of cement and sand at the surface to be washed away to create an exposed aggregate finish.

VOC content limit: 780 grams per liter (6.5 pounds per gallon)

If your coating meets the definition for concrete surface retarders and the definition for other categories, you must comply with the lowest VOC limit of those categories.

CONVERSION VARNISH

Definition: A clear acid curing coating with an alkyd or other resin blended with amino resins and supplied as a single component or two-component product. Conversion varnishes produce a hard, durable, clear finish designed for professional application to wood flooring. The film formation is the result of an acid-catalyzed condensation reaction, affecting a transetherification at the reactive ethers of the amino resins.

VOC content limit: 725 grams per liter (6.0 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Conversion varnish	Floor coating	725 g/l for conversion varnish
	Any category other than floor coating	The lowest VOC content limit for all categories for which the coating meets the definition

DRY FOG COATINGS

Definition: A coating formulated and recommended only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the vicinity of the surface coating activity.

VOC content limit: 400 grams per liter (3.3 pounds per gallon)

If your coating meets the definition for dry fog coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

EXTREME HIGH DURABILITY COATINGS

Definition: An air dry coating, including a fluoropolymer-based coating, that is formulated and recommended for touchup of precoated architectural aluminum extrusions and panels and to ensure the protection of architectural subsections, and that meets the weathering requirements of American Architectural Manufacturer's Association (AAMA) specification 605-98, Voluntary Specification Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.

VOC content limit: 800 grams per liter (6.7 pounds per gallon)

If your coating meets the definition for extreme high durability coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

FAUX FINISHING/GLAZING

Definition: A coating used for wet-in-wet techniques, such as faux woodgrain, faux marble, and simulated aging, which require the finish to remain wet for an extended period of time.

VOC content limit: 700 grams per liter (5.8 pounds per gallon)

If your coating meets the definition for faux finishing/glazing and the definition for other categories, you must comply with the lowest VOC limit of those categories.

FIRE-RETARDANT/RESISTIVE COATINGS-CLEAR

Definition: A coating formulated and recommended to retard ignition and flame spread, or to delay melting or structural weakening due to high heat, that has been fire tested and rated by a certified laboratory for use in bringing buildings and construction materials into compliance with Federal, State, and local building code requirements.

Related definitions:

Clear: Allowing light to pass through, so that the substrate may be distinctly seen.

VOC content limit: 850 grams per liter (7.1 pounds per gallon)

Clear fire-retardant/resistive coatings are subject only to the 850 gram per liter (7.1 pounds per gallon) limit even if they meet the definition of another category.

FIRE-RETARDANT/RESISTIVE COATINGS-OPAQUE

Definition: A coating formulated and recommended to retard ignition and flame spread, or to delay melting or structural weakening due to high heat, that has been fire tested and rated by a certified laboratory for use in bringing buildings and construction materials into compliance with Federal, State, and local building code requirements.

Related definitions:

Opaque: Not allowing light to pass through, so that the substrate is concealed from view.

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

Opaque fire-retardant/resistive coatings are subject only to the 450 gram per liter (3.8 pounds per gallon) limit even if they meet the definition of another category.

FLAT COATINGS-EXTERIOR

Definition: A coating that is not defined under any other definition in this section and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to the American Society for Testing and Materials (ASTM) Method D 523-89, Standard Test Method for Specular Gloss.

Related definitions:

Exterior coatings: An architectural coating formulated and recommended for use in conditions exposed to the weather.

VOC content limit: 250 grams per liter (2.1 pounds per gallon)

Since a flat coating is defined as “a coating that is not defined under any other definition....”, a coating that meets the flat coating definition cannot meet any other category definition. Therefore, a flat coating will always be subject to a VOC content limit of 250 grams per liter (2.1 pounds per gallon).

FLAT COATINGS-INTERIOR

Definition: A coating that is not defined under any other definition in this section and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to the American Society for Testing and Materials (ASTM) Method D 523-89, Standard Test Method for Specular Gloss.

Related definitions:

Interior coatings: An architectural coating formulated and recommended for use in conditions not exposed to natural weathering.

VOC content limit: 250 grams per liter (2.1 pounds per gallon)

Since a flat coating is defined as “a coating that is not defined under any other definition....”, a coating that meets the flat coating definition cannot meet any other category definition. Therefore, a flat coating will always be subject to a VOC content limit of 250 grams per liter (2.1 pounds per gallon).

FLOOR COATINGS

Definition: An opaque coating with a high degree of abrasion resistance that is formulated and recommended for application to flooring including, but not limited to, decks, porches, and steps in a residential setting.

VOC content limit: 400 grams per liter (3.3 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Floor coatings	Conversion varnish	725 g/l for conversion varnish
	Varnish	450 g/l varnish
	Any category other than varnish or conversion varnish	The lowest VOC content limit for all categories for which the coating meets the definition

FLOW COATINGS

Definition: A coating that is used by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units.

VOC content limit: 650 grams per liter (5.4 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Flow coatings	Industrial maintenance	650 g/l for flow coatings
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

FORM RELEASE COMPOUNDS

Definition: A coating formulated and recommended for application to a concrete form to prevent the freshly placed concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

If your coating meets the definition for form release compounds and the definition for other categories, you must comply with the lowest VOC limit of those categories.

GRAPHIC ARTS COATINGS (SIGN PAINTS)

Definition: A coating formulated and recommended for hand-application by artists using brush or roller techniques to indoor or outdoor signs (excluding structural components) and murals including lettering enamels, poster colors, copy blockers, and bulletin enamels.

VOC content limit: 500 grams per liter (4.2 pounds per gallon)

If your coating meets the definition for graphic arts coatings (sign paints) and the definition for other categories, you must comply with the lowest VOC limit of those categories.

HEAT REACTIVE COATINGS

Definition: A high performance phenolic-based coating requiring a minimum temperature of 191 ^{o}C (375 ^{o}F) to 204 ^{o}C (400 ^{o}F) to obtain complete polymerization or cure. These coatings are formulated and recommended for commercial and industrial use to protect substrates from degradation and maintain product purity in which one or more of the following extreme conditions exist:

1. Continuous or repeated immersion exposure of 90 to 98 percent sulfuric acid, or oleum;
2. Continuous or repeated immersion exposure to strong organic solvents;
3. Continuous or repeated immersion exposure to petroleum processing at high temperatures and pressures; and
4. Continuous or repeated immersion exposure to food or pharmaceutical products which may or may not require high temperature sterilization.

VOC content limit: 420 grams per liter (3.5 pounds per gallon)

If your coating meets the definition for heat reactive coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

HIGH TEMPERATURE COATINGS

Definition: A high performance coating formulated and recommended for application to substrates exposed continuously or intermittently to temperatures above 202°C (400°F).

VOC content limit: 650 grams per liter (5.4 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
High temperature coatings	Industrial maintenance	650 g/l for high temperature coatings
	Metallic pigmented	650 g/l for high temperature coatings
	Any category other than metallic pigmented and industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

IMPACTED IMMERSION COATINGS

Definition: A high performance maintenance coating formulated and recommended for application to steel structures subject to immersion in turbulent, debris-laden water. These coatings are specifically resistant to high-energy impact damage caused by floating ice or debris.

VOC content limit: 780 grams per liter (6.5 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Impacted immersion coatings	Industrial maintenance	780 g/l for impacted immersion coatings
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

INDUSTRIAL MAINTENANCE COATINGS

Definition: A high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats formulated and recommended for application to substrates exposed to one or more of the following extreme environmental conditions in an industrial, commercial, or institutional setting:

1. Immersion in water, wastewater, or chemical solutions (aqueous and nonaqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
2. Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;
3. Repeated exposure to temperatures above 120 ^{o}C (250 ^{o}F);
4. Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or
5. Exterior exposure of metal structures and structural components.

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Industrial maintenance	Antenna coatings	530 g/l for antenna coatings
	Anti-graffiti coating	600 g/l for anti-graffiti coatings
	Flow coatings	650 g/l for flow coatings
	High temperature coating	650 g/l for high temperature coatings
	Impacted immersion coating	780 g/l for impacted immersion coatings
	Mastic texture coating	450 g/l for industrial maintenance
	Metallic pigmented coating	500 g/l for metallic pigmented coatings
	Pretreatment wash primer	780 g/l for pretreatment wash primers
	Primer	450 g/l for industrial maintenance

INDUSTRIAL MAINTENANCE COATINGS (Continued)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Industrial maintenance	Repair and maintenance thermoplastic coatings	650 g/l for repair and maintenance thermoplastic coatings
	Sealer	450 g/l for industrial maintenance
	Thermoplastic rubber coatings and mastics	550 g/l for thermoplastic rubber coatings
	Undercoater	450 g/l for industrial maintenance
	Any category other than those listed above	The lowest VOC content limit for all categories for which the coating meets the definition

LACQUERS

Definition: A clear or pigmented wood finish, including clear lacquer sanding sealers, formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film. Lacquer stains are considered stains, not lacquers.

VOC content limit: 680 grams per liter (5.7 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Lacquers	Nonferrous ornamental metal lacquers and surface protectants	870 g/l for nonferrous ornamental metal lacquers and surface protectants
	Other architectural coating applications to wood, except stains	680 g/l for lacquers
	Any category or application other than those listed above.	The lowest VOC content limit for all categories for which the coating meets the definition

MAGNESITE CEMENT COATINGS

Definition: A coating formulated and recommended for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

VOC content limit: 600 grams per liter (5.0 pounds per gallon)

If your coating meets the definition for magnesite cement coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

MASTIC TEXTURE COATINGS

Definition: A coating formulated and recommended to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (0.010 inch) dry film thickness.

VOC content limit: 300 grams per liter (2.5 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Mastic texture coatings	Industrial maintenance	450 g/l for industrial maintenance
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

METALLIC PIGMENTED COATINGS

Definition: A nonbituminous coating containing at least 0.048 kilogram of metallic pigment per liter of coating (0.4 pound per gallon) including, but not limited to, zinc pigment.

VOC content limit: 500 grams per liter (4.2 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Metallic pigmented coatings	High temperature coatings	650 g/l for high temperature coatings
	Industrial maintenance	500 g/l for metallic pigmented coatings
	Primers	500 g/l for metallic pigmented coatings
	Roof coatings	500 g/l for metallic pigmented coatings
	Any category other than those listed above	The lowest VOC content limit for all categories for which the coating meets the definition

MULTI-COLORED COATINGS

Definition: A coating that is packaged in a single container and exhibits more than one color when applied.

VOC content limit: 580 grams per liter (4.8 pounds per gallon)

If your coating meets the definition for multi-colored coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

NONFERROUS ORNAMENTAL METAL LACQUERS AND SURFACE PROTECTANTS

Definition: A clear coating formulated and recommended for application to ornamental architectural metal substrates (bronze, stainless steel, copper, brass, and anodized aluminum) to prevent oxidation, corrosion, and surface degradation.

VOC content limit: 870 grams per liter (7.3 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Nonferrous ornamental metal lacquers and surface protectants	Lacquers	870 g/l for nonferrous ornamental metal lacquers and surface protectants
	Any category other than lacquers	The lowest VOC content limit for all categories for which the coating meets the definition

NONFLAT COATINGS-EXTERIOR

Definition: A coating that is not defined under any other definition in this section and that registers a gloss of 15 or greater on an 85-degree meter or 5 or greater on a 60-degree meter according to ASTM Method D 523-89, Standard Test Method for Specular Gloss.

Related definitions:

Exterior coating: An architectural coating formulated and recommended for use in conditions exposed to the weather.

VOC content limit: 380 grams per liter (3.2 pounds per gallon)

Since a nonflat coating is defined as "a coating that is not defined under any other definition....", a coating that meets the nonflat coating definition cannot meet any other category definition. Therefore, a nonflat coating will always be subject to a VOC content limit of 380 grams per liter (3.2 pounds per gallon).

NONFLAT COATINGS-INTERIOR

Definition: A coating that is not defined under any other definition in this section and that registers a gloss of 15 or greater on an 85-degree meter or 5 or greater on a 60-degree meter according to ASTM Method D 523-89, Standard Test Method for Specular Gloss.

Related definitions:

Interior coating: An architectural coating formulated and recommended for use in conditions not exposed to natural weathering.

VOC content limit: 380 grams per liter (3.2 pounds per pounds)

Since a nonflat coating is defined as "a coating that is not defined under any other definition....", a coating that meets the nonflat coating definition cannot meet any other category definition. Therefore, a nonflat coating will always be subject to a VOC content limit of 380 grams per liter (3.2 pounds per gallon).

NUCLEAR COATINGS

Definition: A protective coating formulated and recommended to seal porous surfaces such as steel (or concrete) that otherwise would be subject to intrusion by radioactive materials. These coatings must be resistant to long-term (service life) cumulative radiation exposure (ASTM Method D 4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants), relatively easy to decontaminate, and resistant to various chemicals to which the coatings are likely to be exposed (ASTM Method D 3912-80 (Reapproved 1989), Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

If your coating meets the definition for nuclear coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

PRETREATMENT WASH PRIMERS

Definition: A primer that contains a minimum of 0.5 percent acid, by weight, that is formulated and recommended for application directly to bare metal surfaces in thin films to provide corrosion resistance and to promote adhesion of subsequent topcoats.

VOC content limit: 780 grams per liter (6.5 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Pretreatment wash primers	Industrial maintenance	780 g/l for pretreatment wash primers
	Primers	780 g/l for pretreatment wash primers
	Any category other than primers or industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

PRIMERS AND UNDERCOATERS

Definition:

Primer: A coating formulated and recommended for application to a substrate to provide a firm bond between the substrate and subsequent coatings.

Undercoater: A coating formulated and recommended to provide a smooth surface for subsequent coatings.

VOC content limit: 350 grams per liter (2.9 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Primers	Antenna coatings	530 g/l for antenna coatings
	Industrial maintenance	450 g/l for industrial maintenance
	Metallic pigmented coatings	500 g/l for metallic pigmented coatings
	Pretreatment wash primers	780 g/l for pretreatment wash primers
	Quick-dry primers	450 g/l for quick-dry primers
	Rust preventative coatings	400 g/l for preventative coatings*
	Any category other than those listed above	The lowest VOC content limit for all categories for which the coating meets the definition
Undercoaters	Industrial maintenance	450 g/l for industrial maintenance
	Quick-dry undercoaters	450 g/l for quick-dry undercoaters
	Rust preventative coatings	400 g/l for preventative coatings*
	Any category other than industrial maintenance or quick-dry undercoaters	The lowest VOC content limit for all categories for which the coating meets the definition

*Regulation correction [§ 59.402(c)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent overlap between the definitions for rust preventative coatings and primers and undercoaters.

QUICK DRY COATINGS - ENAMELS

Definition: A nonflat coating that has the following characteristics:

1. Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27°C (60 and 80°F);
2. When tested in accordance with ASTM Method D 1640-83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and
3. has a dried film gloss of 70 or above on a 60 degree meter.

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

If your coating meets the definition for quick dry coatings - enamels and the definition for other categories, you must comply with the lowest VOC limit of those categories.

QUICK-DRY COATINGS - PRIMERS, SEALERS AND UNDERCOATERS

Definition: A primer, sealer, or undercoater that is dry to the touch in a ½ hour and can be recoated in 2 hours when tested in accordance with ASTM Method D 1640-83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature (incorporated by reference--see §59.412 of this subpart).

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Quick-dry primers	Primers	450 g/l for quick-dry primers
	Any category other than primers	The lowest VOC content limit for all categories for which the coating meets the definition
Quick-dry sealers	Sanding sealers	550 g/l for sanding sealers
	Sealers	450 g/l for quick dry sealers*
	Waterproofing sealers and treatments	600 g/l for waterproofing sealers and treatments
	Any category other than those listed above	The lowest VOC content limit for all categories for which the coating meets the definition
Quick-dry undercoaters	Undercoaters	450 g/l for quick-dry undercoaters
	Any category other than undercoaters	The lowest VOC content limit for all categories for which the coating meets the definition

*Regulation correction [§ 59.402(c)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent omission of the word "sealers."

REPAIR AND MAINTENANCE THERMOPLASTIC COATINGS

Definition: An industrial maintenance coating that has vinyl or chlorinated rubber as a primary resin and is recommended solely for the repair of existing vinyl or chlorinated rubber coatings without the full removal of the existing coating system.

VOC content limit: 650 grams per liter (5.4 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Repair and maintenance thermoplastic coatings	Industrial maintenance	650 g/l for repair and maintenance thermoplastic coatings
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

ROOF COATINGS

Definition: A coating formulated and recommended for application to exterior roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and reflecting ultraviolet radiation. This definition does not include thermoplastic rubber coatings.

VOC content limit: 250 grams per liter (2.1 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Roof coatings	Metallic pigmented coatings	500 g/l for metallic pigmented coatings
	Any category other than metallic pigmented coatings	The lowest VOC content limit for all categories for which the coating meets the definition

RUST PREVENTATIVE COATINGS

Definition: A coating formulated and recommended for use in preventing the corrosion of ferrous metal surfaces in residential situations.

VOC content limit: 400 grams per liter (3.3 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Rust preventative coatings	Primer	400 g/l rust preventative coatings*
	Undercoater	400 g/l for rust preventative coatings*
	Any category other than primer and undercoater	The lowest VOC content limit for all categories for which the coating meets the definition

*Regulation correction [§ 59.402(c)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent overlap between the definitions for rust preventative coatings and primers and undercoaters.

SANDING SEALERS

Definition: A clear wood coating formulated and recommended for application to bare wood to seal the wood and to provide a coat that can be sanded to create a smooth surface. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category.

VOC content limit: 550 grams per liter (4.6 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Sanding sealers	Quick-dry sealers	550 g/l for sanding sealers
	Any category other than quick-dry sealers	The lowest VOC content limit for all categories for which the coating meets the definition

SEALERS (INCLUDING INTERIOR CLEAR WOOD SEALERS)

Definition: A coating formulated and recommended for application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate; to prevent harm to subsequent coatings by materials in the substrate; to block stains, odors, or efflorescence; to seal fire, smoke, or water damage; or to condition chalky surfaces.

VOC content limit: 400 grams per liter (3.3 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Sealers	Industrial maintenance	450 g/l for industrial maintenance
	Quick-dry sealers	450 g/l for quick-dry sealers
	Any category other than industrial maintenance and quick-dry sealers	The lowest VOC content limit for all categories for which the coating meets the definition

SHELLACS-CLEAR

Definition: A clear coating formulated with natural resins (except nitrocellulose resins) soluble in alcohol (including, but not limited to, the resinous secretions of the lac beetle, Laciffer lacca). Shellacs dry by evaporation without chemical reaction and provide a quick-drying, solid protective film that may be used for blocking stains.

Related definitions:

Clear: Allowing light to pass through, so that the substrate may be distinctly seen.

VOC content limit: 730 grams per liter (6.1 pounds per gallon)

Clear shellacs are subject only to the 730 gram per liter (6.1 pounds per gallon) limit even if they meet the definition of another category.

SHELLACS-OPAQUE

Definition: A pigmented coating formulated with natural resins (except nitrocellulose resins) soluble in alcohol (including, but not limited to, the resinous secretions of the lac beetle, Laciffer lacca). Shellacs dry by evaporation without chemical reaction and provide a quick-drying, solid protective film that may be used for blocking stains.

Related definitions:

Opaque: Not allowing light to pass through, so that the substrate is concealed from view.

VOC content limit: 550 grams per liter (4.6 pounds per gallon)

Opaque shellacs are subject only to the 550 gram per liter (4.6 pounds per gallon) limit even if they meet the definition of another category.

STAINS-CLEAR AND SEMITRANSPARENT

Definition: A coating that produces a dry film with minimal coloring. This includes lacquer stains.

Related definitions:

Clear: Allowing light to pass through, so that the substrate may be distinctly seen.

Semitransparent: Not completely concealing the surface of a substrate or its natural texture or grain pattern.

VOC content limit: 550 grams per liter (4.6 pounds per gallon)

If your coating meets the definition for stains-clear and semitransparent and the definition for other categories, you must comply with the lowest VOC limit of those categories.

STAINS-OPAQUE

Definition: A coating that produces a dry film with minimal coloring. This includes lacquer stains.

Related definitions:

Opaque: Not allowing light to pass through, so that the substrate is concealed from view.

VOC content limit: 350 grams per liter (2.9 pounds per gallon)

If your coating meets the definition for stains-opaque and the definition for other categories, you must comply with the lowest VOC limit of those categories.

STAINS - LOW SOLIDS

Definition: A coating that produces a dry film with minimal coloring. This includes lacquer stains.

Related definitions:

Low solids: Containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material and for which at least half of the volatile component is water.

VOC content limit: 120 grams per liter (1.0 pound per gallon)[a]

[a]Units are grams of VOC per liter (pounds of VOC per gallon) of coating, including water and exempt compounds, thinned to the maximum thinning recommended by the manufacturer.

STAIN CONTROLLERS

DEFINITION: A conditioner or pretreatment coating formulated and recommended for application to wood prior to the application of a stain in order to prevent uneven penetration of the stain.

VOC content limit: 720 grams per liter (6.0 pounds per gallon)

If your coating meets the definition for stain controllers and the definition for other categories, you must comply with the lowest VOC limit of those categories.

SWIMMING POOL COATINGS

Definition: A coating formulated and recommended to coat the interior of swimming pools and to resist swimming pool chemicals.

VOC content limit: 600 grams per liter (5.0 pounds per gallon)

If your coating meets the definition for swimming pool coatings and the definition for other categories, you must comply with the lowest VOC limit of those categories.

THERMOPLASTIC RUBBER COATINGS AND MASTICS

Definition: A coating or mastic formulated and recommended for application to roofing or other structural surfaces and that incorporates no less than 40 percent by weight of thermoplastic rubbers in the total resin solids and may also contain other ingredients including, but not limited to, fillers, pigments, and modifying resins.

VOC content limit: 550 grams per liter (4.6 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Thermoplastic rubber coatings and mastics	Industrial maintenance	550 g/l for thermoplastic rubber coatings and mastics
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

TRAFFIC MARKING COATINGS

Definition: A coating formulated and recommended for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, beams, driveways, parking lots, sidewalks, and airport runways.

Related definitions:

Zone marking coating: A coating formulated and recommended for marking and striping driveways, parking lots, sidewalks, curbs, or airport runways, and sold or distributed in a container with a volume of 19 liters (5 gallons) or less.

VOC content limit: 150 grams per liter (1.3 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Traffic Marking Coatings	Zone marking coating	450 g/l for zone marking coatings*
	Any category other than zone marking coatings	The lowest VOC content limit for all categories for which the coating meets the definition

*Regulation correction [§ 59.402], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent overlap between the definitions for traffic marking coatings and zone marking coatings.

VARNISHES

Definition: A clear wood coating formulated and recommended for application to bare wood to seal the wood and to provide a coat that can be sanded to create a smooth surface. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category.

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Varnishes	Floor coatings	450 g/l for varnish
	Any category other than floor coatings	The lowest VOC content limit for all categories for which the coating meets the definition

WATERPROOFING SEALERS AND TREATMENTS

Definition: A coating formulated and recommended for application to a porous substrate for the primary purpose of preventing the penetration of water.

VOC content limit: 600 grams per liter (5.0 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Waterproofing sealers and treatments	Quick-dry sealers	600 g/l for waterproofing sealers and treatments
	Any category other than quick-dry sealers	The lowest VOC content limit for all categories for which the coating meets the definition

WOOD PRESERVATIVES-BELOW-GROUND

Definition: A coating that is formulated and recommended to protect below-ground wood from decay or insect attack and that is registered with the EPA under FIFRA.

Related definitions:

Wood preservatives: A coating formulated and recommended to protect exposed wood from decay or insect attack, registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

VOC content limit: 550 grams per liter (4.6 pounds per gallon)

If your coating meets the definition for wood preservatives-below-ground and the definition for other categories, you must comply with the lowest VOC limit of those categories.

WOOD PRESERVATIVES-CLEAR AND SEMITRANSPARENT

Definition: A coating formulated and recommended to protect exposed wood from decay or insect attack, registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Related definitions:

Clear: Allowing light to pass through, so that the substrate may be distinctly seen.

Semitransparent: Not completely concealing the surface of a substrate or its natural texture or grain pattern.

VOC content limit: 550 grams per liter (4.6 pounds per gallon)

If your coating meets the definition for wood preservatives-clear and semitransparent and the definition for other categories, you must comply with the lowest VOC limit of those categories.

WOOD PRESERVATIVES-OPAQUE

Definition: A coating formulated and recommended to protect exposed wood from decay or insect attack, registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, et seq.).

Related definitions:

Opaque: Not allowing light to pass through, so that the substrate is concealed from view.

VOC content limit: 350 grams per liter (2.9 pounds per gallon)

If your coating meets the definition for wood preservatives-opaque and the definition for other categories, you must comply with the lowest VOC limit of those categories.

WOOD PRESERVATIVES-LOW SOLIDS

Definition: A coating formulated and recommended to protect exposed wood from decay or insect attack, registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Related definitions:

Low solids: Means containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material and for which at least half of the volatile component is water.

VOC content limit: 120 grams per liter (1.0 pound per gallon)[a]

[a]Units are grams of VOC per liter (pounds of VOC per gallon) of coating, including water and exempt compounds, thinned to the maximum thinning recommended by the manufacturer.

ZONE MARKING COATINGS

Definition: A coating formulated and recommended for marking and striping driveways, parking lots, sidewalks, curbs, or airport runways, and sold or distributed in a container with a volume of 19 liters (5 gallons) or less.

Related definitions:

Traffic marking coating: A coating formulated and recommended for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, beams, driveways, parking lots, sidewalks, and airport runways.

VOC content limit: 450 grams per liter (3.8 pounds per gallon)

If your coating meets the definition of ...	and also meets the definition of ...	then your coating is subject to the following VOC content limit ...
Zone marking coatings	Traffic marking coatings	450 g/l for zone marking coatings*
	Any category other than traffic marking coatings	The lowest VOC content limit for all categories for which the coating meets the definition

*Regulation correction [§ 59.402 (c)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent overlap between the definitions for zone marking coatings and traffic marking coatings.

APPENDIX C

Summary of the exceptions to meeting the most restrictive coating category VOC content limit

SUMMARY OF THE EXCEPTIONS TO MEETING THE MOST RESTRICTIVE COATING CATEGORY VOC CONTENT LIMIT

If your coating meets the definition of...	and also meets the definition of...	then your coating is subject to the following VOC content limit...
Antenna coatings	Industrial maintenance	530 g/l for antenna coatings
	Primers	530 g/l for antenna coatings
	Any category other than industrial maintenance or primers	The lowest VOC content limit for all categories for which the coating meets the definition
Anti-graffiti coatings	Industrial maintenance	600 g/l for anti-graffiti coatings
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition
Bituminous coatings and mastics	Any other category	500 g/l for bituminous
Conversion varnish	Floor coating	725 g/l for conversion varnish
	Any category other than floor coating	The lowest VOC content limit for all categories for which the coating meets the definition
Fire retardant/resistive coatings - Clear	Any other category	850 g/l for fire retardant/resistive coatings - clear
Fire retardant/resistive coatings - Opaque	Any other category	450 g/l for fire retardant/resistive coatings - opaque
Floor coatings	Conversion varnish	725 g/l for conversion varnish
	Varnish	450 g/l for varnish
	Any category other than varnish or conversion varnish	The lowest VOC content limit for all categories for which the coating meets the definition
Flow coatings	Industrial maintenance	650 g/l for flow coatings
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

SUMMARY OF THE EXCEPTIONS TO MEETING THE MOST RESTRICTIVE COATING CATEGORY VOC CONTENT LIMIT (CONTINUED)

If your coating meets the definition of...	and also meets the definition of...	then your coating is subject to the following VOC content limit...
High temperature coatings	Metallic pigmented	650 g/l for high temperature coatings
	Industrial maintenance	650 g/l for high temperature coatings
	Any category other than metallic pigmented or industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition
Impacted immersion coatings	Industrial maintenance	780 g/l for impacted immersion coatings
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition
Industrial maintenance	Antenna coatings	530 g/l for antenna coatings
	Anti-graffiti coating	600 g/l for anti-graffiti coatings
	Flow coatings	650 g/l for flow coatings
	High temperature coating	650 g/l for high temperature coatings
	Impacted immersion coating	780 g/l for impacted immersion coatings
	Mastic texture coating	450 g/l for industrial maintenance
	Metallic pigmented coating	500 g/l for metallic pigmented coatings
	Pretreatment wash primers	780 g/l for pretreatment wash primers
	Primers	450 g/l for industrial maintenance
	Repair and maintenance thermoplastic coatings	650 g/l for repair and maintenance thermoplastic coatings
	Sealers	450 g/l for industrial maintenance
	Thermoplastic rubber coatings and mastics	550 g/l for thermoplastic rubber coatings
	Undercoaters	450 g/l for industrial maintenance
	Any category other than those listed above	The lowest VOC content limit for all categories for which the coating meets the definition

SUMMARY OF THE EXCEPTIONS TO MEETING THE MOST RESTRICTIVE COATING CATEGORY VOC CONTENT LIMIT (CONTINUED)

If your coating meets the definition of...	and also meets the definition of...	then your coating is subject to the following VOC content limit...
Lacquers	Nonferrous ornamental metal lacquers and surface protectants	870 g/l for nonferrous ornamental metal lacquers and surface protectants
	Other architectural coating applications to wood, except stains	680 g/l for lacquers
	Any category or application other than those listed above.	The lowest VOC content limit for all categories for which the coating meets the definition
Mastic texture coatings	Industrial maintenance	450 g/l for industrial maintenance
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition
Metallic pigmented coatings	High temperature coatings	650 g/l for high temperature coatings
	Industrial maintenance	500 g/l for metallic pigmented coatings
	Primers	500 g/l for metallic pigmented coatings
	Roof coatings	500 g/l for metallic pigmented coatings
	Any category other than those listed above	The lowest VOC content limit for all categories for which the coating meets the definition
Nonferrous ornamental metal lacquers and surface protectants	Lacquers	870 g/l for nonferrous ornamental metal lacquers and surface protectants
	Any category other than lacquers	The lowest VOC content limit for all categories for which the coating meets the definition
Pretreatment wash primers	Primers	780 g/l for pretreatment wash primers
	Industrial maintenance	780 g/l for pretreatment wash primers
	Any category other than primers or industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition

SUMMARY OF THE EXCEPTIONS TO MEETING THE MOST RESTRICTIVE COATING CATEGORY VOC CONTENT LIMIT (CONTINUED)

If your coating meets the definition of...	and also meets the definition of...	then your coating is subject to the following VOC content limit...
Primers	Antenna coatings	530 g/l for antenna coatings
	Industrial maintenance	450 g/l for industrial maintenance
	Metallic pigmented coatings	500 g/l for metallic pigmented coatings
	Pretreatment wash primers	780 g/l for pretreatment wash primers
	Quick-dry primers	450 g/l for quick-dry primers
	Rust preventative coatings	400 g/l for rust preventative* coatings
	Any category other than those listed above	The lowest VOC content limit for all categories for which the coating meets the definition
Undercoaters	Industrial maintenance	450 g/l for industrial maintenance
	Quick-dry undercoaters	450 g/l for quick-dry undercoaters
	Rust preventative coatings	400 g/l for rust preventative* coatings
	Any category other than industrial maintenance or quick-dry undercoaters	The lowest VOC content limit for all categories for which the coating meets the definition
Quick-dry primers	Primers	450 g/l for quick-dry primers
	Any category other than primers	The lowest VOC content limit for all categories for which the coating meets the definition
Quick-dry sealers	Sanding sealers	550 g/l for sanding sealers
	Sealers	450 g/l for quick-dry sealers
	Waterproofing sealers and treatments	600 g/l for waterproofing sealers and treatments
	Any category other than those listed above	The lowest VOC content limit for all categories for which the coating meets the definition

*Regulation correction [§ 59.402(c)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent overlap between the definitions for rust preventative coatings and primers and undercoaters.

SUMMARY OF THE EXCEPTIONS TO MEETING THE MOST RESTRICTIVE COATING CATEGORY VOC CONTENT LIMIT (CONTINUED)

If your coating meets the definition of...	and also meets the definition of...	then your coating is subject to the following VOC content limit...
Quick-dry undercoaters	Undercoaters	450 g/l for quick-dry undercoaters
	Any category other than undercoaters	The lowest VOC content limit for all categories for which the coating meets the definition
Repair and maintenance thermoplastic coatings	Industrial maintenance	650 g/l for repair and maintenance thermoplastic coatings
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition
Roof coatings	Metallic pigmented coatings	500 g/l for metallic pigmented coatings
	Any category other than metallic pigmented coatings	The lowest VOC content limit for all categories for which the coating meets the definition
Rust preventative coatings	Primers	400 g/l for rust preventative coatings.*
	Undercoaters	400 g/l for rust preventative coatings.*
	Any category other than primers or undercoaters	The lowest VOC content limit for all categories for which the coating meets the definition.
Sanding sealers	Quick-dry sealers	550 g/l for sanding sealers
	Any category other than sanding sealers	The lowest VOC content limit for all categories for which the coating meets the definition

*Regulation correction [§ 59.402(c)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent overlap between the definitions for rust preventative coatings and primers and undercoaters.

SUMMARY OF THE EXCEPTIONS TO MEETING THE MOST RESTRICTIVE COATING CATEGORY VOC CONTENT LIMIT (CONTINUED)

If your coating meets the definition of...	and also meets the definition of...	then your coating is subject to the following VOC content limit...
Sealers	Industrial maintenance	450 g/l for industrial maintenance
	Quick-dry sealers	450 g/l for quick-dry sealers*
	Any category other than industrial maintenance and quick-dry sealers	The lowest VOC content limit for all categories for which the coating meets the definition
Shellac - Clear	Any other category	730 g/l for shellac - clear
Shellac - Opaque	Any other category	550 g/l for shellac - opaque
Thermoplastic rubber coatings and mastics	Industrial maintenance	550 g/l for thermoplastic rubber coatings and mastics
	Any category other than industrial maintenance	The lowest VOC content limit for all categories for which the coating meets the definition
Traffic marking coatings	Zone marking coatings	450 g/l zone marking coatings**
	Any category other than zone marking coatings	The lowest VOC content limit for all categories for which the coating meets the definition.
Varnishes	Floor coatings	450 g/l for varnish
	Any category other than floor coatings	The lowest VOC content limit for all categories for which the coating meets the definition
Waterproofing sealers and treatments	Quick-dry sealers	600 g/l for waterproofing sealers and treatments
	Any category other than quick-dry sealers	The lowest VOC content limit for all categories for which the coating meets the definition

*Regulation correction [§ 59.402(c), see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent omission of the word "sealers."

**Regulation change [§ 59.402(c)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent overlap between the definitions for traffic marking coatings and zone marking coatings.

SUMMARY OF THE EXCEPTIONS TO MEETING THE MOST RESTRICTIVE COATING CATEGORY VOC CONTENT LIMIT (CONTINUED)

If your coating meets the definition of...	and also meets the definition of...	then your coating is subject to the following VOC content limit...
Zone marking coatings	Traffic marking coatings	450 g/l for zone marking coatings*
	Any category other than traffic marking coatings	The lowest VOC content for all categories for which the coating meets the definition

*Regulation change [§ 59.402(c)], see page 7 for where to get the latest information. The technical correction notice (Appendix A) corrects an inadvertent overlap between the definitions for traffic marking coatings and zone marking coatings.

APPENDIX D

Organic compounds that have been exempted from EPA's definition of a Volatile Organic Compound in 40 CFR 51.100

Organic compounds that have been exempted from EPA's definition of a Volatile Organic Compound in 40 CFR 51.100.

	Compound	Exemption	FR
1	methane	July 8, 1977	42 **FR** 35314
2	ethane	July 8, 1977	42 **FR** 35314
3	1,1,1 trichloroethane (methyl chloroform)	July 8, 1977	42 **FR** 35314
4	1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113)	July 8, 1977	42 **FR** 35314
5	dichloromethane (methylene chloride)	June 4, 1979 May 16, 1980	44 **FR** 32042 45 **FR** 32424
6	trichlorofluoromethane (CFC-11)	July 22, 1980	45 **FR** 48941
7	dichlorodifluoromethane (CFC-12)	July 22, 1980	45 **FR** 48941
8	chlorodifluoromethane (HCFC-22)	July 22, 1980	45 **FR** 48941
9	trifluoromethane (HFC-23)	July 22, 1980	45 **FR** 48941
10	1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114)	July 22, 1980	45 **FR** 48941
11	chloropentafluoroethane (CFC-115)	July 22, 1980	45 **FR** 48941
12	1,1,1-trifluoro-2,2-dichloroethane (HCFC-123)	January 18, 1989	54 **FR** 1988
13	1,1,1,2-tetrafluoroethane (HFC-134a)	January 18, 1989	54 **FR** 1988
14	1,1-dichloro-1-fluoroethane (HCFC-141b)	January 18, 1989	54 **FR** 1988
15	1-chloro-1,1-difluoroethane (HCFC-142b)	January 18, 1989	54 **FR** 1988
16	2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	March 18, 1991	56 **FR** 11418
17	pentafluoroethane (HFC-125)	March 18, 1991	56 **FR** 11418
18	1,1,2,2-tetrafluoroethane (HFC-134)	March 18, 1991	56 **FR** 11418
19	1,1,1-trifluoroethane (HFC-143a)	March 18, 1991	56 **FR** 11418
20	1,1-difluoroethane (HFC-152a)	March 18, 1991	56 **FR** 11418
	Perfluorocarbon compounds which fall into these classes:		
21	cyclic, branched, or linear, completely fluorinated alkanes;	March 18, 1991	56 **FR** 11418
22	cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;	March 18, 1991	56 **FR** 11418
23	cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and,	March 18, 1991	56 **FR** 11418
24	sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine	March 18, 1991	56 **FR** 11418
	EPA adopted a definition of VOC in 40 CFR 51.100(s)	February 3, 1992	57 **FR** 3941
25	parachlorobenzotrifluoride (PCPTF)	October 5, 1994	59 **FR** 50693
26	cyclic, branched, or linear completely methylated siloxanes	October 5, 1994	59 **FR** 50693

	Compound	Exemption	FR
27	acetone	June 16, 1995	60 **FR** 31633
28	tetrachloroethane (perchloroethylene)	February 7, 1996	61 **FR** 4588
29	3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	October 8, 1996	61 **FR** 52848
30	1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	October 8, 1996	61 **FR** 52848
31	1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee)	October 8, 1996	61 **FR** 52848
32	difluoromethane (HFC-32)	August 25, 1997	62 **FR** 44900
33	ethylfluoride (HFC-161)	August 25, 1997	62 **FR** 44900
34	1,1,1,3,3,3-hexafluoropropane (HFC-236fa)	August 25, 1997	62 **FR** 44900
35	1,1,2,2,3-pentafluoroproane (HFC-245ca)	August 25, 1997	62 **FR** 44900
36	1,1,2,3,3-pentafluoropropane (HFC-245ea)	August 25, 1997	62 **FR** 44900
37	1,1,1,2,3-pentafluoropropane (HFC-245eb)	August 25, 1997	62 **FR** 44900
38	1,1,1,3,3-pentafluoropropane (HFC-245fa)	August 25, 1997	62 **FR** 44900
39	1,1,2,3,3-hexafluoropropane (HFC-236ea)	August 25, 1997	62 **FR** 44900
40	1,1,1,3,3-pentafluorobutane (HFC-365mfc)	August 25, 1997	62 **FR** 44900
41	chlorofluoromethane (HCFC-31)	August 25, 1997	62 **FR** 44900
42	1-chloro-1-fluoroethane (HCFC-151a)	August 25, 1997	62 **FR** 44900
43	1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)	August 25, 1997	62 **FR** 44900
44	1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane ($C_4F_9OCH_3$)	August 25, 1997	62 **FR** 44900
45	2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ($(CF_3)_2CFCF_2OCH_3$)	August 25, 1997	62 **FR** 44900
46	1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane ($C_4F_9OCH_2H_5$)	August 25, 1997	62 **FR** 44900
47	2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ($(CF_3)_2CFCF_2OC_2H_5$)	August 25, 1997	62 **FR** 44900
48	methyl acetate	April 9, 1998	63 **FR** 17331

[a] *Date shown is publication date of the Notice in the Federal Register. Actual exemption date is generally 30 to 60 days after this publication date.*

APPENDIX E

EPA's Test Method 24: Determination of volatile matter content, water content, density volume solids, and weight solids of surface coatings

EMISSION MEASUREMENT TECHNICAL INFORMATION CENTER
NSPS TEST METHOD

(EMTIC M-24, 7/10/92)

Method 24 - Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings

1. APPLICABILITY AND PRINCIPLE

1.1 Applicability. This method applies to the determination of volatile matter content, water content, density, volume solids, and weight solids of paint, varnish, lacquer, or related surface coatings.

1.2 Principle. Standard methods are used to determine the volatile matter content, water content, density, volume solids, and weight solids of the paint, varnish, lacquer, or related surface coatings.

2. APPLICABLE STANDARD METHODS

Use the apparatus, reagents, and procedures specified in the standard methods below:

2.1 ASTM D 1475-60 (Reapproved 1980), Standard Test Method for Density of Paint, Varnish, Lacquer, and Related Products.

2.2 ASTM D 2369-81, Standard Test Method for Volatile Content of Coatings.

2.3 ASTM D 3792-79, Standard Test Method for Water Content of Water Reducible Paints by Direct Injection into a Gas Chromatograph.

2.4 ASTM D 4017-81, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method.

2.5 ASTM 4457-85 Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph (incorporated by reference--see §60.17).

3. PROCEDURE

3.1 Multicomponent Coatings. Multicomponent coatings are coatings that are packaged in two or more parts, which are combined before application. Upon combination a coreactant from one part of the coating chemically reacts, at ambient conditions, with a coreactant from another part of the coating. To determine the total volatile content, water content, and density of

multicomponent coatings, follow the procedures in section 3.7. For all other coatings analyze as follows:

3.2 Volatile Matter Content. Use the procedure in ASTM D 2369-81 to determine the volatile matter content (may include water) of the coating.

3.2.1 Record the following information:

W_1 = Weight of dish and sample before heating, g.

W_2 = Weight of dish and sample after heating, g.

W_3 = Sample weight, g.

3.2.2 Run analyses in pairs (duplicate sets) for each coating until the criterion in Section 4.3 is met. Calculate the weight fraction of the volatile matter (W_v) for each analysis as follows:

$$W_v = (W_1 - W_2)/W_3 \qquad \text{Eq. 24-1}$$

Record the arithmetic average ($\bar{W}_v$).

3.3 Water Content. For waterborne (water reducible) coatings only, determine the weight fraction of water (W_w) using either ASTM D 3792-79 or ASTM D 4017—81. A waterborne coating is any coating which contains more than 5 percent water by weight in its volatile fraction. Run duplicate sets of determinations until the criterion in Section 4.3 is met. Record the arithmetic average (W_w).

3.4 Coating Density. Determine the density (D_c, kg/liter) of the surface coating using the procedure in ASTM D 1475-60. Run duplicate sets of determinations for each coating until the criterion in Section 4.3 is met. Record the arithmetic average (D_c).

3.5 Solids Content. Determine the volume fraction (V_s) solids of the coating by calculation using the manufacturer's formulation.

3.6 Exempt Solvent Content. Determine the weight fraction of exempt solvents (W_E) by using ASTM Method D4457-85 (incorporated by reference--see §60.17). Run a duplicate set of determinations and record the arithmetic average (W_E).

3.7 To determine the total volatile content, water content, and density of multicomponent coatings, use the following procedures:

3.7.1 Prepare about 100 ml of sample by mixing the components in a storage container, such as a glass jar with a screw top or a metal can with a cap. The storage container should be just large enough to hold the mixture. Combine the components (by weight or volume) in the ratio recommended by the manufacturer. Tightly close the container between additions and during mixing to prevent loss of volatile materials. However, most manufacturers mixing instructions are by volume. Because of possible error caused by expansion of the liquid when measuring the volume, it is recommended that the components be combined by weight. When weight is used to combine the components and the manufacturer's recommended ratio is by volume, the density must be determined by section 3.4.

3.7.2 Immediately after mixing, take aliquots from this 100 ml sample for determination of the total volatile content, water content, and density. To determine water content follow section 3.3. To determine density, follow section 3.4. To determine total volatile content, use the apparatus and reagents described in ASTM D2369-81, sections 3 and 4, respectively (incorporated by reference, and see §60.17) the following procedures:

3.7.2.1 Weigh and record the weight of an aluminum foil weighing dish. Add 3±1 ml of suitable solvent as specified in ASTM D2369-81 to the weighing dish. Using a syringe as specified in ASTM D2369-81, weigh to 1 mg, by difference, a sample of coating into the weighing dish. For coatings believed to have a volatile content less than 40 weight percent, a suitable size is 0.3 ± 0.10 g, but for coatings believed to have a volatile content greater than 40 weight percent, a suitable size is 0.5 ± 0.1 g.

NOTE: If the volatile content determined pursuant to section 5 is not in the range corresponding to the sample size chosen repeat the test with the appropriate sample size. Add the specimen dropwise, shaking (swirling) the dish to disperse the specimen completely in the solvent. If the material forms a lump that cannot be dispersed, discard the specimen and prepare a new one. Similarly, prepare a duplicate. The sample shall stand for a minimum of 1 hour, but no more than 24 hours prior to being oven fried at 110 ± 5°C, for 1 hour.

3.7.2.2 Heat the aluminum foil dishes containing the dispersed specimens in the forced draft oven for 60 min at 110±5°C. Caution -- provide adequate ventilation, consistent with accepted laboratory practice, to prevent solvent vapors from accumulating to a dangerous level.

3.7.2.3 Remove the dishes from the oven, place immediately in a desiccator, cool to ambient temperature, and weigh to within 1 mg.

3.7.2.4 Run analyses in pairs (duplicate sets) for each coating mixture until the criterion in section 4.3 is met. Calculate W_v following Equation 24-1 and record the arithmetic average.

4. DATA VALIDATION PROCEDURE

4.1 Summary. The variety of coatings that may be subject to analysis makes it necessary to verify the ability of the analyst and the analytical procedures to obtain reproducible results for the coatings tested. This is done by running duplicate analyses on each sample tested and comparing results with the within-laboratory precision statements for each parameter. Because of the inherent increased imprecision in the determination of the VOC content of water-borne coatings as the weight percent water increases, measured parameters for water-borne coatings are modified by the appropriate confidence limits based on between-laboratory precision statements.

4.2 Analytical Precision Statements. The within-laboratory and between-laboratory precision statements are given below:

Laboratory	Within-laboratory	Between-laboratory
Volatile matter content, W_v	1.5% $\underline{W}_v$	4.7% $\underline{W}_v$
Water content, W_w	2.9% W_w	7.5% W_w
Density, D_c	001 kg/liter	0.002 kg/liter

4.3 Sample Analysis Criteria. For W_v and W_w, run duplicate analyses until the difference between the two values in a set is less than or equal to the within-laboratory precision statement for that parameter. For D_c run duplicate analyses until each value in a set deviates from the mean of the set by no more than the within-laboratory precision statement. If after several attempts it is concluded that the ASTM procedures cannot be used for the specific coating with the established within-laboratory precision, the Administrator will assume responsibility for providing the necessary procedures for revising the method or precision statements upon written request to: Director, Emission Standards and Engineering Division, MD-13, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711.

4.4 Confidence Limit Calculations for Waterborne Coatings. Based on the between-laboratory precision statements, calculate the confidence limits for waterborne coatings as follows: To calculate the lower confidence limit, subtract the appropriate between-laboratory precision value from the measured mean value for that parameter. To calculate the upper confidence limit, add the appropriate between-laboratory precision value to the measured mean value for that parameter. For W_v and D_c, use the lower confidence limits, and for W_w, use the upper confidence limit. Because V_s is calculated, there is no adjustment for this parameter.

5. CALCULATIONS

5.1 Nonaqueous Volatile Matter.

5.1.1 Solvent-borne Coatings.

$$W_o = W_v \qquad \text{Eq. 24-2}$$

where: W_o = Weight fraction nonaqueous volatile matter, g/g.

5.1.2 Waterborne Coatings.

$$W_o = W_v - W_w \qquad \text{Eq. 24-3}$$

5.2 Weight Fraction Solids.

$$W_s = 1 - W_v. \qquad \text{Eq. 24-4}$$

where: W_s = Weight solids, g/g.

APPENDIX F

When do I include or exclude water, exempt compounds, and colorant from my coating VOC and volume calculations?

When do I include or exclude water, exempt compounds, and colorant from my coating VOC and volume calculations?

For VOC Calculations:

When determining...	the weight of water and exempt compounds is...	and volume of water and exempt compounds is...	and the weight and volume of colorants added to tint bases are...
The "VOC content" of coatings (except for low solids stains and wood preservatives)	excluded	excluded	excluded
The "VOC content" of low solids stains and wood preservatives	excluded	included	excluded
The "VOC amount" for the tonnage exemption (regardless of the type of coating)	excluded	included	excluded

For Volume Calculations:

When determining...	the volume of water and exempt compounds is...	and the volume of colorants added to tint bases is...
The "volume manufactured or imported" for the tonnage exemption	included	excluded
The "volume manufactured or imported" for the exceedance fee	included	excluded

Colorants added to tint bases at the retail store or site of coating application are <u>excluded</u> from all VOC and volume calculations.

APPENDIX G

EPA Regional Office addresses for information and sending notifications and reports

EPA REGIONAL OFFICES

EPA Region I Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	Director, Office of Environmental Stewardship	Mailcode: S.A.A. J.F.K. One Congress Street, Boston, MA 02203-2211
EPA Region II New Jersey, New York, Puerto Rico, Virgin Islands	Director, Division of Enforcement and Compliance Assistance	290 Broadway New York, NY 10007-1866
EPA Region III Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia	Director, Air Protection Division	1650 Arch Street Philadelphia, PA 19103
EPA Region IV Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee	Director, Air Pesticides, and Toxics Management Division	61 Forsyth Street Atlanta, GA 30303
EPA Region V Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin	Director, Air and Radiation Division	77 West Jackson Boulevard Chicago, IL 60604-3507
EPA Region VI Arkansas, Louisiana, New Mexico, Oklahoma, Texas	Director, Multimedia Planning and Permitting Division	1445 Ross Avenue Dallas TX 75202-2733
EPA Region VII Iowa, Kansas, Missouri, Nebraska	Director, Air, RCRA, and Toxics Division	901 N. 5th Street Kansas City, KS 66101
EPA Region VIII Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming	Director, Office of Partnerships and Regulatory Assistance,	999 18th Street, Suite 500, Denver, Colorado 80202-2466
EPA Region IX American Samoa, Arizona, California, Guam, Hawaii, Nevada	Director, Air Division	75 Hawthorne Street San Francisco, CA 94105
EPA Region X Alaska, Oregon, Idaho, Washington	Director, Office of Air Quality	1200 Sixth Avenue, Seattle, WA 98101

APPENDIX H

Worksheets for estimating and computing total mass of VOC for the tonnage exemption and calculating exceedance fees

1. How to estimate the total megagrams of VOC for a coating

2. Figure H1. Tonnage exemption: Total mass of VOC for various volumes of coatings (megagrams)

3. Worksheet for computing total VOC mass for the tonnage exemption compliance option

4. How to estimate the exceedance fee for a coating.

5. Figure H2. Exceedance fee for selected volumes of coatings (dollars)

6. Worksheet for computing exceedance fees

APPENDIX H

1. How to estimate the total megagrams of VOC for a coating

You should use the attached worksheet while following the example calculation in Section 3.8 of this guide to determine the exact total mass (in megagrams) of VOC for a coating. Use Figure H1 in this appendix to estimate the total mass of VOC for your coatings.

Figure H1 can be used to quickly estimate the total mass of VOC (in megagrams) for each of your coatings. This figure can be used to estimate the total mass of VOC for a coating to determine the volume of each coating (or two or more coatings) you can exempt. The volume of any individual coating in the shaded area does not qualify for the initial exemption of 23 megagrams because it exceeds the limit of 23 megagrams for the period from September 13, 1999 through December 31, 1999. Similarly, you can use Figure H1 to determine the volume of a coating that would qualify for the subsequent 18 megagram and 9 megagram exemptions for the year 2001 and the year 2002, etc.

Let’s say you manufacture 40,000 liters of a coating with a VOC content of 450 grams per liter of coating (including volume of water and exempt compounds). First locate the row in the first column that represents the volume of your coating. Move across that row until you come to the column that represents the number of grams of VOC contained in 1 liter of the coating. The "18" in this cell represents the total megagrams of VOC for that coating. If you choose to exempt from the regulation 18 megagrams of VOC for this coating, you may exempt up to 5 megagrams of VOC for another coating(s) before reaching the maximum exemption of 23 megagrams for the initial exemption time period.

2. Figure H1. Tonnage exemption: Total mass of VOC for various volumes of coatings (megagrams)

Volume Manufactured or Imported		Grams VOC Per Liter of Coating (Including volume of water and exempt compounds)														
(gallons)	(liters)	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
1,321	5,000	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
2,642	10,000	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
3,963	15,000	3	4	5	5	6	7	8	8	9	10	11	11	12	13	14
5,284	20,000	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
6,605	25,000	5	6	8	9	10	11	13	14	15	16	18	19	20	21	23
7,926	30,000	6	8	9	11	12	14	15	17	18	20	21	23	24	26	27
9,247	35,000	7	9	11	12	14	16	18	19	21	23	25	26	28	30	32
10,568	40,000	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
11,889	45,000	9	11	14	16	18	20	23	25	27	29	32	34	36	38	41
13,210	50,000	10	13	15	18	20	23	25	28	30	33	35	38	40	43	45
14,531	55,000	11	14	17	19	22	25	28	30	33	36	39	41	44	47	50
15,852	60,000	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
17,173	65,000	13	16	20	23	26	29	33	36	39	42	46	49	52	55	59
18,494	70,000	14	18	21	25	28	32	35	39	42	46	49	53	56	60	63
19,815	75,000	15	19	23	26	30	34	38	41	45	49	53	56	60	64	68
21,136	80,000	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72
22,457	85,000	17	21	26	30	34	38	43	47	51	55	60	64	68	72	77
23,778	90,000	18	23	27	32	36	41	45	50	54	59	63	68	72	77	81
25,099	95,000	19	24	29	33	38	43	48	52	57	62	67	71	76	81	86
26,420	100,000	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
27,741	105,000	21	26	32	37	42	47	53	58	63	68	74	79	84	89	95
29,062	110,000	22	28	33	39	44	50	55	61	66	72	77	83	88	94	99
30,383	115,000	23	29	35	40	46	52	58	63	69	75	81	86	92	98	104

This figure can be used to compute the total mass of VOC for a coating to determine if the total mass of VOC for all exempt coatings is less than the allowed. The shaded areas indicate levels that exceed the maximum allowable tonnage exemption (i.e., 23 megagrams) for the period from September 13, 1999 through December 31, 2000.

3. Worksheet for computing total VOC mass for the tonnage exemption compliance option

	A	B	C	D
Coating Name	Annual Volume Manufactured or Imported (Liters*)	VOC Amount (Grams VOC per liter of coating ** [grams/liter])	Total grams VOC (C = A X B)	Total Mg VOC ($D = C \div 1 \times 10^6$)
TOTAL				

*Multiply gallons x 3.785412 to obtain liters.
**Include volume of water and exempt compounds. (See Appendix F.)

4. How to estimate the exceedance fee for a coating

You should use the attached worksheet while following the example calculation in Section 3.9 of this guide to determine the exact exceedance fee for selected coatings. Use the worksheet in this appendix to estimate the exceedance fee for a selected coating.

Figure H2 can be used to quickly determine the approximate fee for each of your coatings. For example, let's say you manufacture 200,000 liters of a coating that has a VOC content of 300 grams per liter and the VOC content limit for your coating is 350 grams per liter. Choose the appropriate number of liters in the first column. In this case you would use the row at 208,198 liters. Move across that row until you come to the column that represents the difference between the VOC content of the coating and the applicable VOC content limit. For your coating, this would be the column labeled 50 grams per liter. The $29,333 in this column represents the fee for that coating.

5. FIGURE H2. Exceedance fee for selected volumes of coatings (dollars)

Volume of Coating Manufactured or Imported		VOC Content of the Coating in Excess of the VOC Level in the Rule (grams per liter)*												
(gallons)	(liters)	50	100	150	200	250	300	350	400	450	500	550	600	700
5,000	18,927	2,667	5,333	8,000	10,667	13,333	16,000	18,667	21,333	24,000	26,667	29,333	32,000	37,333
10,000	37,854	5,333	10,667	16,000	21,333	26,667	32,000	37,333	42,667	48,000	53,333	58,667	64,000	74,667
15,000	56,781	8,000	16,000	24,000	32,000	40,000	48,000	56,000	64,000	72,000	80,000	88,000	96,000	112,000
20,000	75,708	10,667	21,333	32,000	42,667	53,333	64,000	74,667	85,333	96,000	106,667	117,333	128,000	149,333
25,000	94,635	13,333	26,667	40,000	53,333	66,667	80,000	93,333	106,667	120,000	133,333	146,667	160,000	186,667
30,000	113,562	16,000	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	224,000
35,000	132,489	18,667	37,333	56,000	74,667	93,333	112,000	130,667	149,333	168,000	186,667	205,333	224,000	261,333
40,000	151,416	21,333	42,667	64,000	85,333	106,667	128,000	149,333	170,667	192,000	213,333	234,667	256,000	298,667
45,000	170,344	24,000	48,000	72,000	96,000	120,000	144,000	168,000	192,000	216,000	240,000	264,000	288,000	336,000
50,000	189,271	26,667	53,333	80,000	106,667	133,333	160,000	186,667	213,333	240,000	266,667	293,333	320,000	373,333
55,000	208,198	29,333	58,667	88,000	117,333	146,667	176,000	205,333	234,667	264,000	293,333	322,667	352,000	410,667
60,000	227,125	32,000	64,000	96,000	128,000	160,000	192,000	224,000	256,000	288,000	320,000	352,000	384,000	448,000
65,000	246,052	34,667	69,333	104,000	138,667	173,333	208,000	242,667	277,333	312,000	346,667	381,333	416,000	485,333
70,000	264,979	37,333	74,667	112,000	149,333	186,667	224,000	261,333	298,667	336,000	373,333	410,667	448,000	522,667
75,000	283,906	40,000	80,000	120,000	160,000	200,000	240,000	280,000	320,000	360,000	400,000	440,000	480,000	560,000
80,000	302,833	42,667	85,333	128,000	170,667	213,333	256,000	298,667	341,333	384,000	426,667	469,333	512,000	597,333
85,000	321,760	45,333	90,667	136,000	181,333	226,667	272,000	317,333	362,667	408,000	453,333	498,667	544,000	634,667
90,000	340,687	48,000	96,000	144,000	192,000	240,000	288,000	336,000	384,000	432,000	480,000	528,000	576,000	672,000
95,000	359,614	50,667	101,333	152,000	202,667	253,333	304,000	354,667	405,333	456,000	506,667	557,333	608,000	709,333
100,000	378,541	53,333	106,667	160,000	213,333	266,667	320,000	373,333	426,667	480,000	533,333	586,667	640,000	746,667
150,000	567,812	80,000	160,000	240,000	320,000	400,000	480,000	560,000	640,000	720,000	800,000	880,000	960,000	1,120,000
200,000	757,082	106,667	213,333	320,000	426,667	533,333	640,000	746,667	853,333	960,000	1,066,667	1,173,333	1,280,000	1,493,333
250,000	946,353	133,333	266,667	400,000	533,333	666,667	800,000	933,333	1,066,667	1,200,000	1,333,333	1,466,667	1,600,000	1,866,667
300,000	1,135,624	160,000	320,000	480,000	640,000	800,000	960,000	1,120,000	1,280,000	1,440,000	1,600,000	1,760,000	1,920,000	2,240,000
350,000	1,324,894	186,667	373,333	560,000	746,667	933,333	1,120,000	1,306,667	1,493,333	1,680,000	1,866,667	2,053,333	2,240,000	2,613,333
400,000	1,514,165	213,333	426,667	640,000	853,333	1,066,667	1,280,000	1,493,333	1,706,667	1,920,000	2,133,333	2,346,667	2,560,000	2,986,667
500,000	1,892,706	266,667	533,333	800,000	1,066,667	1,333,333	1,600,000	1,866,667	2,133,333	2,400,000	2,666,667	2,933,333	3,200,000	3,733,333

*grams of VOC per liter of coating, excluding the volume of water and exempt compounds, except for low-solids stains and low-solids wood preservatives (for which volume of water and exempt compounds is included).

6. Worksheet for computing exceedance fees

Coating	A Annual Volume Manufactured or Imported (Liters*)	B VOC Content (grams per liter)	C Applicable Category in the Regulation	D Applicable VOC Content Limit (grams per liter)	E (E = B - D) VOC Content Above the Limit (grams per liter)	F (F = A X E) Grams of VOC Above the Limit	G Fee Rate (dollars per gram of excess VOC)	H (H = F X G) Amount of Fee Owed for Each Coating (dollars)
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
							0.0028	
TOTAL FEE								

*Multiply gallons x 3.785412 to obtain liters.

APPENDIX I

Initial notification report example template
EPA National Volatile Organic Compound Emission Standards for Architectural Coatings [40 CFR part 59, subpart D]

Initial Notification Report
EPA National Volatile Organic Compound Emission Standards for Architectural Coatings [40 CFR Part 59, Subpart D]

You may complete this form as your initial notification report. You may choose any format, as long as you submit the information required by 40 CFR 59.408(b), subpart D. Submit this information to the appropriate Regional Office of the U.S. Environmental Protection Agency by September 13, 1999 (March 13, 2000 if your only coatings are FIFRA-registered) or within 180 days of becoming a regulated entity under the regulation. See end of this form for relevant regulation sections and 40 CFR 59.409, subpart D for addresses of EPA Regional Offices.

Company Name _____

Company Official Submission Date _____, 19___

Name _____

Title _____

Signature _____

Mailing Address_____

_____

Phone Number _____/____/_____

Fax Number _____/____/_____

E-Mail Address (optional) _____@_____

Description of Date-Coding System

Code Explanation* _____

_____

Placement on Containers _____

Other Information _____

Note: You must notify EPA within 30 days of changes to the date coding system.

*The description of the date code should be adequate to enable EPA to use it to determine the date of manufacture of a coating from the date code on the container.

Company Name: _____

Product categories subject to 40 CFR part 59, subpart D that the company currently manufactures or imports (See definitions at CFR 59.401.) **Check** all that apply

Check Here	Coating Category	Check Here	Coating Category
	Antenna coating		Nonferrous ornamental metal lacquers and surface protectant
	Anti-fouling coating	–	Nonflat coating
	Anti-graffiti coating		exterior
	Below-ground wood preservative		interior
	Bituminous coating and mastic		Nuclear coating
	Bond breaker		Pretreatment wash primer
	Calcimine recoater		Primer
	Chalkboard resurfacer		Quick-dry enamel
	Concrete curing compound		Quick-dry primer, sealer, and undercoater
	Concrete curing and sealing compound		Repair and maintenance thermoplastic coating
	Concrete surface retarder		Roof coating
	Concrete protective coating		Rust preventative coating
	Conversion varnish		Sanding sealer
	Dry fog coating		Sealer (including interior clear wood sealer)
	Extreme high durability coating	–	Shellac
	Faux-finishing/glazing		clear
–	Fire-retardant/resistive coating		opaque
	clear	–	Stain
	opaque		clear and semitransparent
–	Flat coating		opaque
	exterior		low solids
	interior		Stain controller
	Floor coating		Swimming pool coating
	Flow coating		Thermoplastic rubber coating and mastic
	Form release compound		Traffic marking coating
	Graphic arts coating or sign paint		Undercoater
	Heat reactive coating		Varnish
	High temperature coating		Waterproofing sealer and treatment
	Impacted immersion coating	–	Wood preservative
	Industrial maintenance coating		below ground wood preservatives
	Lacquer		clear and semitransparent
	Magnesite cement coating		opaque
	Mastic texture coating		low solids
	Metallic pigmented coating		Zone marking coating
	Multi-colored coating		

Company Name: _____

Name and Street Address of U.S. Manufacturing Facilities (see 40 CFR 59.408)

_____

Name of facility _____ _____ Street Address _____ _____	Name of facility _____ _____ Street Address _____ _____
Name of facility _____ _____ Street Address _____ _____	Name of facility _____ _____ Street Address _____ _____
Name of facility _____ _____ Street Address _____ _____	Name of facility _____ _____ Street Address _____ _____
Name of facility _____ _____ Street Address _____ _____	Name of facility _____ _____ Street Address _____ _____
Name of facility _____ _____ Street Address _____ _____	Name of facility _____ _____ Street Address _____ _____

Initial Notification Report Form for Architectural Coatings
Relevant Rule Sections and Addresses of EPA Regional Offices

§ 59.408 Reporting requirements.

(b) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit an initial notification report no later than September 13, 1999 or within 180 days after the date that the first architectural coating is manufactured or imported, whichever is later. The initial report must include the information in paragraphs (b)(1) through (b)(3) of this section.

(1) The name and mailing address of the manufacturer or importer.

(2) The street address of each one of the manufacturer's or importer's facilities in the United States that is producing, packaging, or repackaging any architectural coating subject to the provisions of this subpart.

(3) A list of the categories from table 1 of this subpart for which the manufacturer's or importer's coatings meet the definitions in § 59.401 of this subpart.

(4) If a date code is used on a coating container to represent the date a coating was manufactured, as allowed in § 59.405(a)(1) of this subpart, the manufacturer or importer of the coating shall include an explanation of each date code in the initial notification report and shall submit an explanation of any new date code no later than 30 days after the new date code is first used on the container for a coating.

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§ 59.409 Address of EPA Regional Offices.

Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit all requests, reports, submittals, exceedance fee payments, and other communications to the Administrator pursuant to this regulation to the Regional Office of the U.S. Environmental Protection Agency that serves the State or Territory in which the corporate headquarters of the manufacturer or importer resides. These areas are indicated in the following list of EPA Regional Offices.

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), Director, Office of Environmental Stewardship. Mailcode: SAA., One Congress Street, Boston, MA 02203-2211.

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Division of Enforcement and Compliance Assistance, 290 Broadway, New York, NY 10007-1866.

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103.

EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), Director, Air, Pesticides and Toxics Management Division, 61 Forsyth Street, Atlanta, GA 30303.

EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, IL 60604-3507.

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas), Director, Multimedia Planning and Permitting Division, 1445 Ross Avenue, Dallas, TX 75202-2733.

EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air, RCRA, and Toxics Division, 901 N. 5th Street, Kansas City, KS 66101.

EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming), Director, Office of Partnerships and Regulatory Assistance, 999 18th Street, Suite 500, Denver, Colorado 80202-2466.

EPA Region IX (American Samoa, Arizona, California, Guam, Hawaii, Nevada), Director, Air Division, 75 Hawthorne Street, San Francisco, CA 94105.

EPA Region X (Alaska, Oregon, Idaho, Washington), Director, Office of Air Quality, 1200 Sixth Avenue, Seattle, WA 98101.

APPENDIX J

Contacts and Resources

CONTACTS AND RESOURCES

Contact	Address	Description
Unified Air Toxics Website: Rule and Implementation Information for Architectural Coatings	http://www.epa.gov/ttn/uatw/ 183e/aim/aimpg.html	Regulation information Technical information Implementation information
EPA Office of Federal Register Browse the list of CFR sections affected.	http://www.access.gpo/nara/lsa/ browslsa.html	List of CFR sections that have been updated.
EPA Clean Air Technology Center	(919) 541-0800	Resources on emerging and existing air pollution prevention and control technologies.
Federal Register Online via Government Printing Office Access	http://www.access.gpo.gov/ su_docs/aces/aces140.html	Federal Register documents, including the published architectural coatings regulation
EPA Small Business Assistance Program (SBAP)	http://www.epa.gov/ttn/sbap	State & local SBAP contacts SBAP materials Related web sites Meetings & conferences
EPA Office of Enforcement and Compliance Assurance: Policy on Compliance Incentives For Small Businesses	http://es.epa.gov/oeca/ smbusi.html	Applicability of EPA's policy to promote environmental compliance among small businesses. Criteria for civil penalty mitigation.
EPA Office of Enforcement and Compliance Assurance: Audit Policy: Incentives for Self-Policing	http://es.epa.gov/oeca/ auditpol.html	Applicability of EPA's policy to enhance protection of human health and the environment by encouraging regulated entities to voluntarily discover, and disclose and correct violations of environmental requirements.
EPA Office of Enforcement and Compliance Assurance: Audit Policy Interpretive Guidance	http://es.epa.gov/oeca/ apolguid.html	Questions and answers on self-disclosure
EPA Air Enforcement Division General Clean Air Act Stationary Source Policies and Guidance	http://es.epa.gov/oeca/ore/ aed/comp/bcomp	Clean Air Act Stationary Source Civil Penalty Policy

APPENDIX K

Glossary

The glossary tells you where architectural coating terms are defined. Each term is defined in either the regulation (Appendix A of this guide) or the category fact sheets (Appendix B of this guide).

Categories Defined in the Regulation
(See the regulation, Appendix A of this guide and category fact sheets, Appendix B of this guide)

Antenna Coating	Flow Coating	Quick-dry Enamel
Anti-fouling Coating	Form Release Compound	Quick-dry primer, sealer, and undercoaters
Anti-graffiti Coating	Graphics Art Coating	Repair and Maintenance Thermoplastic Coating
Below-Ground Wood Preservative	Heat Reactive Coating	Roof Coating
Bituminous Coating and Mastic	High Temperature Coating	Rust Preventative Coating
Bond Breaker	Impacted Immersion Coating	Sanding Sealer
Calcimine Recoater	Industrial Maintenance Coating	Sealer
Chalkboard Resurfacer	Interior Clear Wood Sealer	Shellac (clear, opaque, and clear and semitransparent)
Concrete Curing Compound	Lacquer	Stain (opaque and low solids)
Concrete Curing and Sealing	Magnesite Cement Coating	Stain Controller
Concrete Protective Coating	Mastic Texture Coating	Swimming Pool Coating
Concrete Surface Retarder	Metallic Pigmented Coating	Thermoplastic Rubber Coating and Mastic
Conversion Varnish	Multi-Colored Coating	Traffic Marking Coating
Dry Fog	Nonferrous Ornamental Metal Lacquers and Surface Protectant	Undercoater
Extreme High Durability Coating	Nonflat Coating	Varnish
Faux-Finishing/Glazing	Nuclear Coating	Waterproofing Sealer and Treatment
Fire-retardant/Resistive Coating (clear and opaque)	Pretreatment Wash Primer	Wood Preservative (below ground, clear and semi-transparent, opaque, and low solids)
Flat Coating (interior and exterior)	Primers (and Undercoaters)	Zone Marking Coating
Floor Coating		

Other terms defined in the regulation
(See the regulation, Appendix A of this guide.)

Act	Importer	Pigmented
Adhesive	Importer	Post-consumer Coating
Administrator	Interior Coating	Recycled Coating
Appurtenance	Label	Repackage
Architectural Coating	Low Solids	Semitransparent
Clear	Manufactured	Shop Application
Coating	Manufacturer	Tint Base
Colorant	Opaque	United States
Container	Paint Exchange	Volatile Organic Compound or VOC
Exempt Compounds	Person	VOC Content
Exterior Coating		

APPENDIX L

Questionnaire: How useful was this guide?

Questionnaire

The EPA is including this brief questionnaire to solicit feedback from users as to the usefulness, readability, and improvements needed for this guide. Please complete this information and return it to the EPA at the following address:

U.S. EPA
Office of Policy
Regulatory Management Division
Mail Code 2136
401 M Street, SW
Washington, DC 20460

Date: _____

Title of Regulation or Program: *Small Entity Compliance Guide: National Volatile Organic Compound Emission Standards for Architectural Coatings* EPA 453/R-99-003

*Name of Commenter (optional):*_____

Please take a moment to let us know if you found this guide useful by answering the following questions. Thank you, your feedback is important to us.

1. *I could easily understand what requirements I must meet.*_____

2. *The guide is written in understandable language.*_____

3. *The guide helped me understand the steps I must take to comply with the regulation.*_____

4. *If you have suggestions to improve the guide, please indicate below:*

TECHNICAL REPORT DATA

(Please read Instructions on reverse before completing)

1. REPORT NO. EPA-453/R-99-003	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE Small Entity Compliance Guide; National Volatile Organic Compound Emission Standards for Architectural Coatings		5. REPORT DATE July 1999 6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Environmental Protection Agency Office of Air Quality Planning and Standards Office of Air and Radiation Research Triangle Park, NC 27711		10. PROGRAM ELEMENT NO. 11. CONTRACT/GRANT NO. 68-D6-0011
12. SPONSORING AGENCY NAME AND ADDRESS Director Office of Air Quality Planning and Standards Office of Air and Radiation U.S. Environmental Protection Agency Research Triangle Park, NC 27711		13. TYPE OF REPORT AND PERIOD COVERED Final 14. SPONSORING AGENCY CODE EPA/200/04

15. SUPPLEMENTARY NOTES

16. ABSTRACT

On September 11, 1998, under authority of section 183(e) of the Clean Air Act, the U.S. Environmental Protection Agency published national volatile organic compound emission standards for architectural coatings. The Small Entity Compliance Guide is intended to help architectural coating manufacturers and importers, particularly those who are small entities, understand and comply with the standards. The guide is required by the Small Business Regulatory Enforcement Fairness Act of 1996.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air pollution, Pollution control, Volatile Organic compounds, Architectural coatings	Air pollution control	

18. DISTRIBUTION STATEMENT Release Unlimited	19. SECURITY CLASS *(Report)* Unclassified	21. NO. OF PAGES 220
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