COMMONWEALTH OF VIRGINIA

STATE AIR POLLUTION CONTROL BOARD

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9 VAC 5 CHAPTER 20.

GENERAL PROVISIONS.

PART I.

ADMINISTRATIVE.

9 VAC 5-20-21. Documents incorporated by reference.

A. The Administrative Process Act and Virginia Register Act provide that state regulations may incorporate documents by reference. Throughout these regulations, documents of the types specified below have been incorporated by reference.

1. United States Code.

2. Code of Virginia.

3. Code of Federal Regulations.

4. Federal Register.

5. Technical and scientific reference documents.

Additional information on key federal regulations and non-statutory documents incorporated by reference and their availability may be found in subsection E of this section.

B. Any reference in these regulations to any provision of the Code of Federal Regulations (CFR) shall be considered as the adoption by reference of that provision. The specific version of the provision adopted by reference shall be that contained in the CFR (~~2001~~ 2002) in effect July 1, ~~2001~~ 2002. In making reference to the Code of Federal Regulations, 40 CFR Part 35 means Part 35 of Title 40 of the Code of Federal Regulations; 40 CFR 35.20 means Section 35.20 in Part 35 of Title 40 of the Code of Federal Regulations.

C. Failure to include in this section any document referenced in the regulations shall not invalidate the applicability of the referenced document.

D. Copies of materials incorporated by reference in this section may be

examined by the public at the central office of the Department of Environmental Quality, Eighth Floor, 629 East Main Street, Richmond, Virginia between 8:30 a.m. and 4:30 p.m. of each business day.

E. Information on federal regulations and non-statutory documents incorporated by reference and their availability may be found below in this subsection.

1. Code of Federal Regulations.

a. The provisions specified below from the Code of Federal Regulations (CFR) are incorporated herein by reference.

(1) 40 CFR Part 50 - National Primary and Secondary Ambient Air Quality Standards.

(a) Appendix A - Reference Method for the Determination of Sulfur Dioxide in the Atmosphere (Pararosaniline Method).

(b) Appendix B - Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method).

(c) Appendix C - Measurement Principle and Calibration Procedure for the Continuous Measurement of Carbon Monoxide in the Atmosphere (Non-Dispersive Infrared Photometry).

(d) Appendix D - Measurement Principle and Calibration Procedure for the Measurement of Ozone in the Atmosphere.

(e) Appendix E - Reference Method for Determination of Hydrocarbons Corrected for Methane.

(f) Appendix F - Measurement Principle and Calibration Procedure for the Measurement of Nitrogen Dioxide in the Atmosphere (Gas Phase Chemiluminescence).

(g) Appendix G - Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air.

(h) Appendix H - Interpretation of the National Ambient Air Quality Standards for Ozone.

(i) Appendix I - Reserved.

(j) Appendix J - Reference Method for the Determination of Particulate Matter as PM_{10} in the Atmosphere.

(k) Appendix K - Interpretation of the National Ambient Air Quality Standards for Particulate Matter.

(2) 40 CFR Part 51 - Requirements for Preparation, Adoption, and Submittal of Implementation Plans.

Appendix M - Recommended Test Methods for State Implementation Plans.

Appendix S - Emission Offset Interpretive Ruling.

Appendix W - Guideline on Air Quality Models (Revised).

(3) 40 CFR Part 58 - Ambient Air Quality Surveillance.

Appendix B - Quality Assurance Requirements for

Prevention of Significant Deterioration (PSD) Air Monitoring.

(4) 40 CFR Part 60 - Standards of Performance for New Stationary Sources.

The specific provisions of 40 CFR Part 60 incorporated by reference are found in Article 5 (9 VAC 5-50-400 et seq.) of Part II of Chapter 50, Rule 5-5, Environmental Protection Agency Standards of Performance for New Stationary Sources.

(5) 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.

The specific provisions of 40 CFR Part 61 incorporated by reference are found in Article 1 (9 VAC 5-60-60 et seq.) of Part II of Chapter 60, Rule 6-1, Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants.

(6) 40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories.

The specific provisions of 40 CFR Part 63 incorporated by reference are found in Article 2 (9 VAC 5-60-90 et seq.) of Part II of Chapter 60, Rule 6-2, Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants for Source Categories.

(7) 40 CFR Part 59, Subpart D—National Volatile Organic Compound Emission Standards for Architectural Coatings, Appendix A--"Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings."

(8) 40 CFR Part 64, Compliance Assurance Monitoring.

(9) 40 CFR Part 72, Permits Regulation.

(10) 40 CFR Part 73, Sulfur Dioxide Allowance System.

(11) 40 CFR Part 74, Sulfur Dioxide Opt-Ins.

(12) 40 CFR Part 75, Continuous Emission Monitoring.

(13) 40 CFR Part 76, Acid Rain Nitrogen Oxides Emission

Reduction Program.

(14) 40 CFR Part 77, Excess Emissions.

(15) 40 CFR Part 78, Appeal Procedures for Acid Rain Program.

b. Copies may be obtained from: Superintendent of Documents, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954; phone (202) 783-3238.

2. U.S. Environmental Protection Agency.

a. The following documents from the U.S. Environmental Protection Agency are incorporated herein by reference:

(1) Reich Test, Atmospheric Emissions from Sulfuric Acid Manufacturing Processes, Public Health Service Publication No. PB82250721, 1980.

(2) Compilation of Air Pollutant Emission Factors (AP-42). Volume I: Stationary and Area Sources, stock number 055-000-00500-1, 1995; Supplement A, stock number 055-000-00551-6, 1996; Supplement B, stock number 055-

000-00565, 1997; Supplement C, stock number 055-000-00587-7, 1997; Supplement D, 1998; Supplement E, 1999.

b. Copies of Volume I and Supplements A through C may be obtained from: U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161; phone 1-800-553-6847. Copies of Supplements D and E may be obtained online from EPA's Technology Transfer Network at http://www.epa.gov/ttn/chief/ap42/index/html.

3. U.S. government.

a. The following document from the U.S. government is incorporated herein by reference: Standard Industrial Classification Manual, 1987 (U.S. Government Printing Office stock number 041-001-00-314-2).

b. Copies may be obtained from: Superintendent of Documents, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954; phone (202) 512-1800.

4. American Society for Testing and Materials (ASTM)

a. The documents specified below from the American Society for

Testing and Materials are incorporated herein by reference.

(1) D323-99a, "Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)."

(2) D97-96a, "Standard Test Method for Pour Point of Petroleum Products."

(3) D129-00, "Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)."

(4) D388-99, "Standard Classification of Coals by Rank."

(5) D396-98, "Standard Specification for Fuel Oils."

(6) D975-98b, "Standard Specification for Diesel Fuel Oils."

(7) D1072-90(1999), "Standard Test Method for Total Sulfur in Fuel Gases."

(8) D1265-97, "Standard Practice for Sampling Liquefied

Petroleum (LP) Gases (Manual Method)."

(9) D2622-98, "Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry."

(10) D4057-95(2000), "Standard Practice for Manual Sampling of Petroleum and Petroleum Products."

(11) D4294-98, "Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectroscopy."

(12) D523-89, “Standard Test Method for Specular Gloss” (1999).

(13) D1613-96, “Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and Related Products” (1999).

(14) D1640-95, “Standard Test Method for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature” (1999).

(15) E119-00a, “Standard Test Method for Fire Tests of Building Construction Materials” (2000).

(16) E84-01, “Standard Test Method for Surface Burning Characteristics of Building Construction Materials” (2001).

(17) D4214-98, “Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films (1998).

b. Copies may be obtained from: American Society for Testing Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959; phone (610) 832-9585.

5. American Petroleum Institute (API)

a. The following document from the American Petroleum Institute is incorporated herein by reference: Evaporative Loss from Floating Roof Tanks, API MPMS Chapter 192, April 1, 1997.

b. Copies may be obtained from: American Petroleum Institute,

1220 L Street, Northwest, Washington, D.C. 20005; phone (202) 682-8000.

6. American Conference of Governmental Industrial Hygienists (ACGIH)

a. The following document from the ACGIH is incorporated herein by reference: 1991-1992 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices (ACGIH Handbook).

b. Copies may be obtained from: ACGIH, 1330 Kemper Meadow Drive, Suite 600, Cincinnati, Ohio 45240; phone (513) 742-2020.

7. National Fire Prevention Association (NFPA)

a. The documents specified below from the National Fire Prevention Association are incorporated herein by reference.

(1) NFPA 385, Standard for Tank Vehicles for Flammable and Combustible Liquids, 2000 Edition.

(2) NFPA 30, Flammable and Combustible Liquids Code, 2000 Edition.

(3) NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages, 2000 Edition.

b. Copies may be obtained from the National Fire Prevention Association, One Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts 02269-9101; phone (617) 770-3000.

8. American Society of Mechanical Engineers (ASME).

a. The documents specified below from the American Society of Mechanical Engineers are incorporated herein by reference.

(1) ASME Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1--1964 (R1991).

(2) ASME Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th edition (1971).

(3) Standard for the Qualification and Certification of Resource Recovery Facility Operators, ASME QRO-1-1994.

b. Copies may be obtained from the American Society of Mechanical Engineers, Three Park Avenue, New York, New York, 10016; phone (800) 843-2763.

9. American Hospital Association (AHA)

a. The following document from the American Hospital Association is incorporated herein by reference: An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities, AHA Catalog no. W5-057007, 1993.

b. Copies may be obtained from: American Hospital Association, One North Franklin, Chicago, IL 60606; phone (800) 242-2626.

10. Bay Area Air Quality Management District (BAAQMD)

a. The following documents from the Bay Area Air Quality Management District are incorporated herein by reference:

(1) Method 41, “Determination of Volatile Organic Compounds in Solvent-Based Coatings and Related Materials Containing

Parachlorobenzotrifluoride" (December 20, 1995).

(2) Method 43, "Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials" (November 6, 1996).

b. Copies may be obtained from: Bay Area Air Quality Management District, 939 Ellis Street, San Francisco, CA 94109, phone (415) 771-6000.

11. South Coast Air Quality Management District (SCAQMD)

a. The following documents from the South Coast Air Quality Management District are incorporated herein by reference:

(1) Method 303-91, "Determination of Exempt Compounds," in Manual SSMLLABM, "Laboratory Methods of Analysis for Enforcement Samples" (1996).

(2) Method 318-95, "Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction," in Manual SSMLLABM, "Laboratory Methods of Analysis for Enforcement Samples" (1996).

b. Copies may be obtained from: South Coast Air Quality Management District, 21865 E. Copley Drive, Diamond Bar, CA 91765, phone (909) 396-2000.

12. California Air Resources Board (CARB)

a. The following documents from the California Air Resources Board are incorporated herein by reference:

(1) Test Method 510, “Automatic Shut-Off Test Procedure For Spill-Proof Systems and Spill-Proof Spouts” (July 6, 2000).

(2) Test Method 511, “Automatic Closure Test Procedure For Spill-Proof Systems and Spill-Proof Spouts” (July 6, 2000).

(3) Test Method 512, “Determination Of Fuel Flow Rate For Spill-Proof Systems and Spill-Proof Spouts” (July 6, 2000).

(4) Test Method 513, “Determination Of Permeation Rate For Spill-Proof Systems” (July 6, 2000).

b. Copies may be obtained from: California Air Resources Board, P.O. Box 2815, Sacramento, CA 95812, phone (906) 322-3260 or –2990.

COMMONWEALTH OF VIRGINIA

STATE AIR POLLUTION CONTROL BOARD

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9 VAC 5 CHAPTER 40.

EXISTING SOURCES.

PART II.

Emission Standards.

ARTICLE 42.

Emission Standards for Portable Fuel Container Spillage in the Northern Virginia Volatile Organic Compound Emissions Control Area (Rule 4-42).

9 VAC 5-40-5700. Applicability.

9 VAC 5-40-5710. Definitions.

9 VAC 5-40-5720. Standard for volatile organic compounds.

9 VAC 5-40-5730. Administrative requirements.

9 VAC 5-40-5740. Compliance.

9 VAC 5-40-5750. Compliance schedules.

9 VAC 5-40-5760. Test methods and procedures.

9 VAC 5-40-5770. Notification, records and reporting.

9 VAC 5-40-5700. Applicability.

A. Except as provided in subsections C through H of this section, the provisions of this article apply to any person who sells, supplies, offers for sale, or manufactures for sale portable fuel containers or spouts.

B. The provisions of this article apply only to sources and persons in the Northern Virginia volatile organic compounds emissions control area designated in 9 VAC 5-20-206.

C. The provisions of this article do not apply to any portable fuel container or spout manufactured for shipment, sale, and use outside of the Northern Virginia volatile organic compound emissions control area.

D. This article does not apply to a manufacturer or distributor who sells, supplies, or offers for sale a portable fuel container or spout that does not comply with the emission standards specified in 9 VAC 5-40-5720, as long as the manufacturer or distributor can demonstrate that: (i) the portable fuel container or spout is intended for shipment and use outside of the Northern Virginia volatile organic compound emissions

control area; and (ii) that the manufacturer or distributor has taken reasonable prudent precautions to assure that the portable fuel container or spout is not distributed within the Northern Virginia volatile organic compound emissions control area. This subsection does not apply to portable fuel containers or spouts that are sold, supplied, or offered for sale to retail outlets.

E. This article does not apply to safety cans meeting the requirements of 29 CFR Part 1926 Subpart F.

F. This article does not apply to portable fuel containers with a nominal capacity less than or equal to one quart.

G. This article does not apply to rapid refueling devices with nominal capacities greater than or equal to four gallons, provided such devices are designed either (i) to be used in officially sanctioned off-highway motorcycle competitions, (ii) to create a leak-proof seal against a stock target fuel tank, or (iii) or to operate in conjunction with a receiver permanently installed on the target fuel tank.

H. This article does not apply to portable fuel tanks manufactured specifically to deliver fuel through a hose attached between the portable fuel tank and the outboard engine for the purpose of operating the outboard engine.

9 VAC 5-40-5710. Definitions.

A. For the purpose of applying this article in the context of the Regulations for the Control and Abatement of Air Pollution and related uses, the words or terms shall have the meaning given them in subsection C of this section.

B. As used in this article, all terms not defined herein shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

C. Terms defined.

"ASTM" means the American Society for Testing and Materials.

"Consumer" means any person who purchases or otherwise acquires a new portable fuel container or spout for personal, family, household, or institutional use. Persons acquiring a portable fuel container or spout for resale are not "consumers" for that product.

"Distributor" means any person to whom a portable fuel container or spout

is sold or supplied for the purpose of resale or distribution in commerce. This term does not include manufacturers, retailers, and consumers.

"Fuel" means all motor fuels subject to any provision of Chapter 12 (§ 59.1-149 et seq.) of Title 59.1 of the Code of Virginia.

"Manufacturer" means any person who imports, manufactures, assembles, produces, packages, repackages, or re-labels a portable fuel container or spout.

"Nominal capacity" means the volume indicated by the manufacturer that represents the maximum recommended filling level.

"Outboard engine" means a spark-ignition marine engine that, when properly mounted on a marine watercraft in the position to operate, houses the engine and drive unit external to the hull of the marine watercraft.

"Permeation" means the process by which individual fuel molecules may penetrate the walls and various assembly components of a portable fuel container directly to the outside ambient air.

"Portable fuel container" means any container or vessel with a nominal

capacity of ten gallons or less intended for reuse that is designed or used primarily for receiving, transporting, storing, and dispensing fuel.

"Product category" means the applicable category that best describes the product with respect to its nominal capacity, material construction, fuel flow rate, and permeation rate, as applicable, as determined by the board.

"Retailer" means any person who owns, leases, operates, controls, or supervises a retail outlet.

"Retail outlet" means any establishment at which portable fuel containers or spouts are sold, supplied, or offered for sale.

"Spill-proof spout" means any spout that complies with the standards specified in 9 VAC 5-40-5720 B.

"Spill-proof system" means any configuration of portable fuel container and firmly attached spout that complies with the standards in 9 VAC 5-40-5720 A.

"Spout" means any device that can be firmly attached to a portable fuel container and through which the contents of the container may be poured.

"Target fuel tank" means any receptacle that receives fuel from a portable fuel container.

9 VAC 5-40-5720. Standard for volatile organic compounds.

A. No person shall sell, supply, offer for sale, or manufacture for sale any portable fuel container which, at the time of sale or manufacture, does not meet all of the following standards for spill-proof systems:

1. Has an automatic shut-off that stops the fuel flow before the target fuel tank overflows.

2. Automatically closes and seals when removed from the target fuel tank and remains completely closed when not dispensing fuel.

3. Has only one opening for both filling and pouring.

4. Provides a fuel flow rate and fill level of:

a. Not less than one-half gallon per minute for portable fuel

containers with a nominal capacity of:

(1) Less than or equal to 1.5 gallons and fills to a level less than or equal to 1 inch below the top of the target fuel tank opening; or

(2) Greater than 1.5 gallons but less than or equal to 2.5 gallons and fills to a level less than or equal to one inch below the top of the target fuel tank opening if the spill-proof system clearly displays the phrase “Low Flow Rate” in type of 34 point or greater on each spill-proof system or label affixed thereto, and on the accompanying package, if any; or

b. Not less than one gallon per minute for portable fuel containers with a nominal capacity greater than 1.5 gallons but less than or equal to 2.5 gallons and fills to a level less than or equal to 1.25 inches below the top of the target fuel tank opening; or,

c. Not less than two gallons per minute for portable fuel containers with a nominal capacity greater than 2.5 gallons.

5. Does not exceed a permeation rate of 0.4 grams per gallon per day.

6. Is warranted by the manufacturer for a period of not less than one year against defects in materials and workmanship.

B. No person shall sell, supply, offer for sale, or manufacture for sale any spout which, at the time of sale or manufacture, does not meet all of the following standards for spill-proof spouts:

1. Has an automatic shut-off that stops the fuel flow before the target fuel tank overflows.

2. Automatically closes and seals when removed from the target fuel tank and remains completely closed when not dispensing fuel.

3. Provides a fuel flow rate and fill level of:

a. Not less than one-half gallon per minute for portable fuel containers with a nominal capacity of:

(1) Less than or equal to 1.5 gallons and fills to a level less than or equal to 1 inch below the top of the target fuel tank opening; or,

(2) Greater than 1.5 gallons but less than or equal to 2.5 gallons and fills to a level less than or equal to one inch below the top of the target fuel tank opening if the spill-proof spout clearly displays the phrase “Low Flow Rate” in type of 34 point or greater on the accompanying package, or for spill-proof spouts sold without packaging, on either the spill-proof spout or a label affixed thereto; or,

b. Not less than one gallon per minute for portable fuel containers with a nominal capacity greater than 1.5 gallons but less than or equal to 2.5 gallons and fills to a level less than or equal to 1.25 inches below the top of the target fuel tank opening; or,

c. Not less than two gallons per minute for portable fuel containers with a nominal capacity greater than 2.5 gallons.

4. Is warranted by the manufacturer for a period of not less than one year against defects in materials and workmanship.

C. The test procedures for determining compliance with the standards in this section are set forth in 9 VAC 5-40-5760. The manufacturer of portable fuel containers or spouts shall perform the tests for determining compliance as set forth in 9 VAC 5-40-

5760 to show that its product meets the standards of this section prior to allowing the product to be offered for sale. The manufacturer shall maintain records of these compliance tests for as long as the product is available for sale and shall make those test results available within 60 days of request.

D. Compliance with the standards in this section does not exempt spill-proof systems or spill-proof spouts from compliance with other applicable federal and state statutes and regulations such as state fire codes, safety codes, and other safety regulations, nor will the board test for or determine compliance with such other statutes or regulations.

E. Notwithstanding the provisions of subsections A and B of this section, a portable fuel container or spout manufactured before January 1, 2005, may be sold, supplied, or offered for sale after January 1, 2005, if the date of manufacture or a date code representing the date of manufacture is clearly displayed on the portable fuel container or spout.

9 VAC 5-40-5730 Administrative requirements.

A. Each manufacturer of a portable fuel container subject to and complying with 9 VAC 5-40-5720 A shall clearly display on each spill-proof system:

1. The phrase “Spill-Proof System”;

2. A date of manufacture or representative date; and

3. A representative code identifying the portable fuel container as subject to and complying with 9 VAC 5-40-5720 A.

B. Each manufacturer of a spout subject to and complying with 9 VAC 5-40-5720 B shall clearly display on the accompanying package, or for spill-proof spouts sold without packaging, on either the spill-proof spout or a label affixed thereto:

1. The phrase “Spill-Proof Spout”;

2. A date of manufacture or representative date; and

3. A representative code identifying the spout as subject to and complying with 9 VAC 5-40-5720 B.

C. Each manufacturer subject to subsection A or B shall file an explanation of both the date code and representative code with the board no later than the later of

three months after the effective date of this article or within three months of production, and within three months after any change in coding.

D. Each manufacturer subject to subsection A or B shall clearly display a fuel flow rate on each spill-proof system or spill-proof spout, or label affixed thereto, and on any accompanying package.

E. Each manufacturer of a spout subject to subsection B shall clearly display the make, model number, and size of those portable fuel containers the spout is designed to accommodate and for which the manufacturer can demonstrate the container's compliance with 9 VAC 5-40-5720 A on the accompanying package, or for spill-proof spouts sold without packaging, on either the spill-proof spout or a label affixed thereto.

F. Manufacturers of portable fuel containers not subject to or not in compliance with 9 VAC 5-40-5720 may not display the phrase "Spill-Proof System" or "Spill-Proof Spout" on the portable fuel container or spout or on any sticker or label affixed thereto or on any accompanying package.

G. Each manufacturer of a portable fuel container or spout subject to and complying with 9 VAC 5-40-5720 that due to its design or other features cannot be used

to refuel on-road motor vehicles shall clearly display the phrase “Not Intended For Refueling On-Road Motor Vehicles” in type of 34 point or greater on each of the following:

1. For a portable fuel container sold as a spill-proof system, on the system or on a label affixed thereto, and on the accompanying package, if any; and

2. For a spill-proof spout sold separately from a spill-proof system, on either the spill-proof spout, or a label affixed thereto, and on the accompanying package, if any.

9 VAC 5-40-5740. Compliance.

The provisions of subsections B, D, F, and J of 9 VAC 5-40-20 (Compliance) apply. The other provisions of 9 VAC 5-40-20 do not apply.

9 VAC 5-40-5750. Compliance schedules.

A. Affected persons shall comply with the provisions of this article as expeditiously as possible but in no case later than January 1, 2005.

B. Any person who cannot comply with the provisions of this article by the date specified in subsection A of this section, due to extraordinary reasons beyond that person's reasonable control, may apply in writing to the board for a waiver. The waiver application shall set forth:

1. The specific grounds upon which the waiver is sought;

2. The proposed date by which compliance with the provisions of this article will be achieved; and

3. A compliance report detailing the methods by which compliance will be achieved.

C. No waiver may be granted unless all of the following findings are made:

1. That, due to reasons beyond the reasonable control of the applicant, required compliance with this article would result in extraordinary economic hardship;

2. That the public interest in mitigating the extraordinary hardship to the applicant by issuing the waiver outweighs the public interest in avoiding any

increased emissions of air contaminants that would result from issuing the waiver; and

3. That the compliance report proposed by the applicant can reasonably be implemented and shall achieve compliance as expeditiously as possible.

D. Any approval of a waiver shall specify a final compliance date by which compliance with the requirements of this article shall be achieved. Any approval of a waiver shall contain a condition that specifies the increments of progress necessary to assure timely compliance and such other conditions that the board finds necessary to carry out the purposes of this article.

E. A waiver shall cease to be effective upon the failure of the party to whom the waiver was granted to comply with any term or condition of the waiver.

F. Upon the application of any person, the board may review, and for good cause, modify or revoke a waiver from requirements of this article.

9 VAC 5-40-5760. Test methods and procedures.

A. The provisions of subsection G of 9 VAC 5-40-30 (Emission testing) apply. The other provisions of 9 VAC 5-40-30 do not apply.

B. Testing to determine compliance with 9 VAC 5-40-5720 B of this article shall be performed by using the following test procedures:

1. California Air Resources Board (CARB) Automatic Shut-Off Test Procedure for Spill-Proof Systems and Spill-Proof Spouts.

2. CARB Automatic Closure Test Procedure for Spill-Proof Systems and Spill-Proof Spouts.

3. CARB Determination of Fuel Flow Rate for Spill-Proof Systems and Spill-Proof Spouts.

C. Testing to determine compliance with 9 VAC 5-40-5720 A of this article shall be performed by using all test procedures in subsection B above and the following test procedure: CARB Determination of Permeation Rate for Spill-Proof Systems.

These test methods are incorporated by reference in 9 VAC 5-20-21.

9 VAC 5-40-5770. Notification, records and reporting.

The provisions of subsections D, E, F, and H of 9 VAC 5-40-50 (Notification, records

and reporting) apply. The other provisions of 9 VAC 5-40-50 do not apply.

COMMONWEALTH OF VIRGINIA

STATE AIR POLLUTION CONTROL BOARD

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9 VAC 5 CHAPTER 40.

EXISTING SOURCES.

PART II.

Emission Standards.

ARTICLE 24.

Emission Standards For Solvent Metal

Cleaning Operations Using Non-Halogenated Solvents (Rule 4-24).

9 VAC 5-40-3260. Applicability and designation of affected facility.

A. The affected facility to which the provisions of this article apply is each solvent metal cleaning operation using non-halogenated solvents, including, but not limited to, cold or vapor degreasing at service stations; motor vehicle repair shops; automobile dealerships; machine shops; and any other metal refinishing, cleaning, repair, or fabrication facility.

B. The provisions of this article apply only to sources of volatile organic compounds in volatile organic compound emissions control areas designated in 9 VAC 5-20-206. They do not apply to sources in the Northern Virginia volatile organic compound emissions control area designated in 9 VAC 5-20-206. These sources are subject to Article 47.

ARTICLE 47.

Emission Standards for Solvent Metal Cleaning Operations in the Northern Virginia Volatile Organic Compound Emissions Control Area (Rule 4-47).

9 VAC 5-40-6820. Applicability and designation of affected facility.

9 VAC 5-40-6830. Definitions.

9 VAC 5-40-6840. Standard for volatile organic compounds.

9 VAC 5-40-6850. Standard for visible emissions.

9 VAC 5-40-6860. Standard for fugitive dust/emissions.

9 VAC 5-40-6870. Standard for odor.

9 VAC 5-40-6880. Standard for toxic pollutants.

9 VAC 5-40-6890. Compliance.

9 VAC 5-40-6900. Compliance schedules.

9 VAC 5-40-6910. Test methods and procedures.

9 VAC 5-40-6920. Monitoring.

9 VAC 5-40-6930. Notification, records and reporting.

9 VAC 5-40-6940. Registration.

9 VAC 5-40-6950. Facility and control equipment maintenance or malfunction.

9 VAC 5-40-6960. Permits.

9 VAC 5-40-6820. Applicability and designation of affected facility.

A. The affected facility to which the provisions of this article apply is each solvent metal cleaning operation, including, but not limited to, cold or vapor degreasing at service stations; motor vehicle repair shops; automobile dealerships; machine shops; and any other metal refinishing, cleaning, repair, or fabrication facility. Certain provisions of this article also apply to sellers of solvents for use in a cold cleaning machine.

B. The provisions of this article apply only to sources and persons in the Northern Virginia volatile organic compounds emissions control area designated in 9 VAC 5-20-206.

9 VAC 5-40-6830. Definitions.

A. For the purpose of applying this article in the context of the Regulations for the Control and Abatement of Air Pollution and related uses, the words or terms shall have the meaning given them in subsection C of this section.

B. As used in this article, all terms not defined herein shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

C. Terms defined.

"Airless cleaning system" means a solvent cleaning machine that is automatically operated and seals at a differential pressure of 0.50 pounds per square inch gauge (psig) or less, prior to the introduction of solvent or solvent vapor into the cleaning chamber and maintains differential pressure under vacuum during all cleaning and drying cycles.

"Air-tight cleaning system" means a solvent cleaning machine that is automatically operated and seals at a differential pressure no greater than 0.50 psig, prior to the introduction of solvent or solvent vapor into the cleaning chamber and during all cleaning and drying cycles.

"Batch vapor cleaning machine" means a vapor cleaning machine in which individual parts or a set of parts move through the entire cleaning cycle before new parts are introduced into the cleaning machine. The term includes solvent cleaning machines, such as ferris wheel cleaners or cross rod machines, that clean multiple loads simultaneously and are manually loaded. The term does not include machines which do not have a solvent/air interface, such as airless and air-tight cleaning systems.

"Carbon adsorber" means a bed of activated carbon into which an air/solvent gas-vapor stream is routed and which adsorbs the solvent on the carbon.

"Cold cleaning machine" means a device or piece of equipment, containing or using an unheated liquid which contains greater than 5% volatile organic compound or 5% hazardous air pollutant (HAP) by weight, where parts are placed to remove dirt, grease, oil or other contaminants and coatings, from the surfaces of the parts or to dry the parts. The term does not include machines which do not have a solvent/air interface, such as airless and air-tight cleaning systems.

"Dwell" means holding parts within the freeboard area of a solvent cleaning machine but above the solvent vapor zone. Dwell occurs after cleaning to allow solvent to drain from the parts or parts baskets back into the solvent cleaning machine.

"Dwell time" means the period of time between when a parts basket is placed in the vapor zone of a batch vapor or in-line vapor cleaning machine and when solvent dripping ceases. Dwell time is determined by placing a basket of parts in the vapor zone and measuring the amount of time between when the parts are placed in the vapor zone and dripping ceases.

"Freeboard ratio" means for a cold cleaning machine, the distance from the liquid solvent to the top edge of the cold cleaning machine divided by the width of the cold cleaning machine; for an operating batch vapor cleaning machine or an in-line vapor cleaning machine, the distance from the top of the solvent vapor layer to the top edge of the vapor cleaning machine divided by the width of the vapor cleaning machine.

"Freeboard refrigeration device" means a set of secondary coils mounted in the freeboard area of a solvent cleaning machine that carries a refrigerant or other chilled substance to provide a chilled air blanket above the solvent vapor. A solvent cleaning machine primary condenser which is capable of maintaining a temperature in the center of the chilled air blanket at not more than 30% of the solvent boiling point is both a primary condenser and a freeboard refrigeration device.

"Immersion cold cleaning machine" means a cold cleaning machine in which the

parts are immersed in the solvent when being cleaned.

"In-line vapor cleaning machine" means a vapor cleaning machine that uses an automated parts handling system, typically a conveyor, to automatically provide a supply of parts to be cleaned. In-line vapor cleaning machines are fully enclosed except for the conveyor inlet and exit portals.

"Reduced room draft" means decreasing the flow or movement of air across the top of the freeboard area of a solvent cleaning machine to less than 50 feet per minute (15.2 meters per minute) by methods including redirecting fans or air vents, moving a machine to a corner where there is less room draft, or constructing a partial or complete enclosure.

"Remote reservoir cold cleaning machine" means a machine in which liquid solvent is pumped to a sink-like work area that immediately drains solvent back into an enclosed container while parts are being cleaned, allowing no solvent to pool in the work area.

"Solvent/air interface" means the location of contact between the concentrated solvent vapor layer and the air. This location of contact is defined as the mid-line height of the primary condenser coils. For a cold cleaning machine, it is the location of contact

between the liquid solvent and the air.

"Solvent cleaning machine" means a device or piece of equipment that uses solvent liquid or vapor to remove contaminants, such as dirt, grease, oil, and coatings, from the surfaces of materials. Types of solvent cleaning machines include batch vapor cleaning machines, in-line vapor cleaning machines, immersion cold cleaning machines, remote reservoir cold cleaning machines, airless cleaning systems and air-tight cleaning systems.

"Solvent cleaning machine automated parts handling system" means a mechanical device that carries all parts and parts baskets at a controlled speed from the initial loading of soiled or wet parts through the removal of the cleaned or dried parts.

"Solvent cleaning machine down time" means the period when a solvent cleaning machine is not cleaning parts and the sump heating coils, if present, are turned off.

"Solvent cleaning machine idle time" means the period when a solvent cleaning machine is not actively cleaning parts and the sump heating coil, if present, is turned on.

"Solvent metal cleaning operation" means the process of cleaning foreign matter from metal surfaces by using solvents, including, but not limited to, cold cleaning

machines that process metal parts and contain more than 1 liter of volatile organic compounds; batch vapor cleaning machines that process metal parts; in-line vapor cleaning machines; and airless cleaning machines and air-tight cleaning machines that process metal parts.

"Superheated vapor system" means a system that heats the solvent vapor to a temperature 10^{N}F above the solvent's boiling point. Parts are held in the superheated vapor before exiting the machine to evaporate the liquid solvent on the parts.

"Vapor cleaning machine" means a solvent cleaning machine that boils liquid solvent, generating a vapor, or that heats liquid solvent that is used as part of the cleaning or drying cycle. The term does not include machines which do not have a solvent/air interface, such as airless and air-tight cleaning systems.

"Vapor cleaning machine primary condenser" means a series of circumferential cooling coils on a vapor cleaning machine through which a chilled substance is circulated or recirculated to provide continuous condensation of rising solvent vapors, and thereby, create a concentrated vapor zone.

"Vapor up control switch" means a thermostatically controlled switch which shuts off or prevents condensate from being sprayed when there is no vapor. On in-line vapor

cleaning machines the switch also prevents the conveyor from operating when there is no vapor.

"Working mode cover" means any cover or solvent cleaning machine design that allows the cover to shield the cleaning machine openings from outside air disturbances while parts are being cleaned in the cleaning machine. A cover that is used during the working mode is opened only during parts entry and removal.

9 VAC 5-40-6840. Standard for volatile organic compounds.

A. No owner or other person shall use or permit the use of a cold cleaning machine that processes metal parts and contains more than 1 liter of volatile organic compounds unless the machine complies with this article. The board may make an exception if the owner demonstrates and the board approves in writing that compliance with the article will result in unsafe operating conditions.

1. Immersion cold cleaning machines shall have a freeboard ratio of 0.75 or greater unless the machines are equipped with covers that are kept closed except when parts are being placed into or being removed from the machine.

2. Immersion cold cleaning machines and remote reservoir cold cleaning machines shall:

a. Have a permanent, conspicuous label summarizing the operating requirements in subdivision 3 of this subsection.

b. Be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent. For remote reservoir cold cleaning machines which drain directly into the solvent storage reservoir, a perforated drain with a diameter of not more than six inches shall constitute an acceptable cover.

3. Cold cleaning machines shall be operated in accordance with the following procedures:

a. Waste solvent shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

b. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be

tipped or rotated while the part is draining. During the draining, tipping or rotating, the parts shall be positioned so that solvent drains directly back to the cold cleaning machine.

c. Flushing of parts using a flexible hose or other flushing device shall be performed only within the freeboard area of the cold cleaning machine. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

d. The owner shall ensure that, when the cover is open, the cold cleaning machine is not exposed to drafts greater than 40 meters per minute (132 feet per minute), as measured between 1 and 2 meters (3.3 and 6.6 feet) upwind and at the same elevation as the tank lip.

e. Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the cold cleaning machine.

f. When a pump-agitated solvent bath is used, the agitator shall be operated to produce a rolling motion of the solvent with no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.

g. Spills during solvent transfer and use of the cold cleaning machine shall be cleaned up immediately, and the wipe rags or other sorbent material shall be immediately stored in covered containers for disposal or recycling.

h. Work area fans shall be located and positioned so that they do not blow across the opening of the degreaser unit.

i. The owner shall ensure that the solvent level does not exceed the fill line.

4. No person shall use, sell, or offer for sale for use in a cold cleaning machine any solvent with a vapor pressure of 1.0 millimeters of mercury (mm Hg) or greater, measured at 20^{B}C (68^{B}F) containing volatile organic compounds.

5. Any person who sells or offers for sale any solvent containing volatile organic compounds for use in a cold cleaning machine shall provide, to the purchaser, the following written information:

a. The name and address of the solvent supplier.

b. The type of solvent including the product or vendor identification number.

c. The vapor pressure of the solvent measured in mm Hg at 20[B]C (68[B]F).

6. A person who operates a cold cleaning machine shall maintain for not less than two years and shall provide to the board, on request, the information specified in subdivision A 5 of this section. An invoice, bill of sale, certificate that corresponds to a number of sales, Material Safety Data Sheet (MSDS), or other appropriate documentation acceptable to the board may be used to comply with this section.

B. No owner or other person shall use or permit the use of a batch vapor cleaning machine that processes metal parts unless the machine complies with this article.

1. Batch vapor cleaning machines shall be equipped with:

a. Either a fully enclosed design or a working and downtime mode cover that completely covers the cleaning machine openings when in place, is

free of cracks, holes and other defects, and can be readily opened or closed without disturbing the vapor zone. If the solvent cleaning machine opening is greater than 10 square feet, the cover shall be powered. If a lip exhaust is used, the closed cover shall be below the level of the lip exhaust.

b. Sides that result in a freeboard ratio greater than or equal to 0.75.

c. A safety switch (thermostat and condenser flow switch) which shuts off the sump heat if the coolant is not circulating.

d. A vapor up control switch which shuts off the spray pump if vapor is not present.

e. An automated parts handling system which moves the parts or parts baskets at a speed of 11 feet (3.4 meters) per minute or less when the parts are entering or exiting the vapor zone. If the parts basket or parts being cleaned occupy more than 50% of the solvent/air interface area, the speed of the parts basket or parts shall not exceed 3 feet per minute.

f. A device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

g. A vapor level control device that shuts off the sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

h. Each vapor cleaning machine shall have a primary condenser.

i. Each vapor cleaning machine that uses a lip exhaust shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber such that the concentration of organic solvent in the exhaust does not exceed 100 parts per million.

j. A permanent, conspicuous label summarizing the operating requirements found in subdivision B 4 of this section.

2. In addition to the requirements of subdivision B 1 of this section, the owner of a batch vapor cleaning machine with a solvent/air interface area of 13 square feet or less shall implement one of the following options:

a. A working mode cover, freeboard ratio of 1.0, and superheated vapor.

b. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point and superheated vapor.

c. A working mode cover and a freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point.

d. Reduced room draft, freeboard ratio of 1.0 and superheated vapor;

e. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point and reduced room draft.

f. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point and a freeboard ratio of 1.0.

g. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point and dwell. Dwell shall be not less than 35% of the dwell time determined for the part or parts.

h. Reduced room draft, dwell and a freeboard ratio of 1.0.

i. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.

j. A freeboard ratio of 1.0, superheated vapor and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.

3. In addition to the requirements of subdivision B 1 of this section, the owner of a batch vapor cleaning machine with a solvent/air interface area of greater than 13 square feet shall use one of the following devices or strategies:

a. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point, a freeboard ratio of 1.0 and superheated vapor.

b. Dwell, a freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point, and reduced room draft. Dwell shall be not less than 35% of the dwell time determined for the part or parts.

c. A working mode cover and a freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point and superheated vapor.

d. Reduced room draft, freeboard ratio of 1.0 and superheated vapor.

e. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point, reduced room draft and superheated vapor.

f. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point, reduced room draft and a freeboard ratio of 1.0.

g. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point, superheated vapor, and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.

4. Batch vapor cleaning machines shall be operated in accordance with the following procedures:

a. Waste solvent, still bottoms and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

b. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. A superheated vapor system shall be an acceptable alternate technology.

c. Parts baskets or parts shall not be removed from the batch vapor cleaning machine until dripping has ceased.

d. Flushing or spraying of parts using a flexible hose or other flushing device shall be performed within the vapor zone of the batch vapor cleaning machine or within a section of the machine that is not exposed to the ambient air. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

e. When the cover is open, the batch vapor cleaning machine shall not exposed to drafts greater than 40 meters per minute (132 feet per minute), as measured between 1 and 2 meters (3.3 and 6.6 feet) upwind and at the same elevation as the tank lip.

f. Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the batch vapor cleaning machine.

g. Spills during solvent transfer and use of the batch vapor cleaning machine shall be cleaned up immediately or the machine shall be shut down. Wipe rags or other sorbent material shall be immediately stored in covered containers for disposal or recycling.

h. Work area fans shall be located and positioned so that they do not blow across the opening of the batch vapor cleaning machine.

i. During startup of the batch vapor cleaning machine the primary condenser shall be turned on before the sump heater.

j. During shutdown of the batch vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

k. When solvent is added to or drained from the batch vapor cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

l. The working and downtime covers shall be closed at all times except during parts entry and exit from the machine, during maintenance of the machine when the solvent has been removed, and during addition of solvent to the machine.

m. If a lip exhaust is used on the open top vapor degreaser, the ventilation rate shall not exceed 20 m3/min/m2 (65 ft3/min/ft2) of degreaser open area, unless a higher rate is necessary to meet OSHA requirements.

C. No owner or other person shall use or permit the use of an in-line vapor cleaning machine unless the machine complies with this article.

1. In-line vapor cleaning machines shall be equipped with:

a. Either a fully enclosed design or a working and downtime mode cover that completely covers the cleaning machine openings when in place, is free of cracks, holes and other defects, and can be readily opened or closed without disturbing the vapor zone.

b. A switch (thermostat and condenser flow switch) which shuts off the sump heat if the coolant is not circulating.

c. Sides which result in a freeboard ratio greater than or equal to 0.75.

d. A vapor up control switch.

e. An automated parts handling system which moves the parts or parts baskets at a speed of 11 feet (3.4 meters) per minute or less when the parts are entering or exiting the vapor zone. If the parts basket or parts being cleaned occupy more than 50% of the solvent/air interface area, the speed of the parts basket or parts shall not exceed 3 feet per minute.

f. A device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

g. A vapor level control device that shuts off the sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

h. A permanent, conspicuous label summarizing these operating requirements.

i. A primary condenser.

j. Each machine that uses a lip exhaust shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber such that the concentration of organic solvent in the exhaust does not exceed 100 parts per million.

2. In addition to the requirements of subdivision C 1 of this section, the owner of an in-line vapor cleaning machine shall use one of the following devices or strategies:

a. A freeboard ratio of 1.0 and superheated vapor.

b. A freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's boiling point and a freeboard ratio of 1.0.

c. Dwell and a freeboard refrigeration device operated to ensure that the chilled air blanket temperature is no greater than 30% of the solvent's

boiling point. Dwell shall be not less than 35% of the dwell time determined for the part or parts.

d. Dwell and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time. Dwell shall be not less than 35% of the dwell time determined for the part or parts.

3. In-line vapor cleaning machines shall be operated in accordance with the following procedures:

a. Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

b. Parts shall be oriented so that the solvent drains freely from the parts. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining.

c. Parts baskets or parts shall not be removed from the in-line vapor cleaning machine until dripping has ceased.

d. Flushing or spraying of parts using a flexible hose or other flushing device shall be performed within the vapor zone of the in-line vapor cleaning machine or within a section of the machine that is not exposed to the ambient air. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

e. Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the in-line vapor cleaning machine.

f. Spills during solvent transfer and use of the in-line vapor cleaning machine shall be cleaned up immediately, and the wipe rags or other sorbent material shall be immediately stored in covered containers for disposal or recycling.

g. Use no workplace fans near the degreaser opening, and ensure that exhaust ventilation does not exceed 20 ^{m3}/min/^{m2} of degreaser opening, unless a higher rate is necessary to meet OSHA requirements.

h. During startup of the in-line vapor cleaning machine the primary condenser shall be turned on before the sump heater.

i. During shutdown of the in-line vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

j. Spraying operations shall be done in the vapor zone or within a section of the machine that is not exposed to the ambient air.

k. When solvent is added to or drained from the in-line vapor cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

l. Minimize openings during operation so that entrances and exits silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 10 cm (4 in) or less than 10% of the width of the opening.

D. No owner or other person shall use or permit the use of an airless cleaning machine or air-tight cleaning machine that processes metal parts unless the machine complies with this article.

1. The owner of each machine shall maintain a log of solvent additions and deletions for each machine including the weight of solvent contained in activated carbon or other sorbent material used to control emissions from the cleaning machine.

2. The owner of each machine shall demonstrate that the emissions from each machine, on a three-month rolling average, are equal to or less than the allowable limit determined by the use of Table 4-47A or the following equation if the volume of the cleaning machine exceeds 2.95 cubic meters:

$$EL = 330 (vol)^{0.6}$$

where:

EL = the three-month rolling average monthly emission limit (kilograms/month)

vol = the cleaning capacity of machine (cubic meters)

TABLE 4-47A. EMISSION LIMITS FOR CLEANING MACHINES WITHOUT A SOLVENT/AIR INTERFACE

Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)
0.00	0	1.00	330	2.00	500
0.05	55	1.05	340	2.05	508
0.10	83	1.10	349	2.10	515
0.15	106	1.15	359	2.15	522
0.20	126	1.20	368	2.20	530
0.25	144	1.25	377	2.25	537
0.30	160	1.30	386	2.30	544

Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)
0.35	176	1.35	395	2.35	551
0.40	190	1.40	404	2.40	558
0.45	204	1.45	412	2.45	565
0.50	218	1.50	421	2.50	572
0.55	231	1.55	429	2.55	579
0.60	243	1.60	438	2.60	585
0.65	255	1.65	446	2.65	592
0.70	266	1.70	454	2.70	599
0.75	278	1.75	462	2.75	605

Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)
0.80	289	1.80	470	2.80	612
0.85	299	1.85	477	2.85	619
0.90	310	1.90	485	2.90	625
0.95	320	1.95	493	2.95	632

3. The owner of each machine shall operate the machine in conformance with the manufacturer's instructions and good air pollution control practices.

4. The owner of each machine equipped with a solvent adsorber shall measure and record the concentration of solvent in the exhaust of the carbon adsorber weekly with a colorimetric detector tube designed to measure a concentration of 100 ppm by volume of solvent to air at an accuracy of ∀ 25 ppm by volume. This test shall be conducted while the solvent cleaning machine is in the working mode and is venting to the adsorber.

5. The owner of each machine equipped with a solvent adsorber shall maintain and operate the machine and adsorber system so that emissions from the adsorber exhaust do not exceed 100 ppm by volume measured while the solvent cleaning machine is in the working mode and is venting to the adsorber.

6. The machine shall be equipped with a permanent, conspicuous label summarizing the operating requirements in subsection D 7 of this subsection.

7. Airless cleaning machines and air-tight cleaning machines shall be operated in accordance with the following procedures:

a. Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

b. Parts shall be oriented so that the solvent drains freely from the parts. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining.

c. Parts baskets or parts shall not be removed from the in-line vapor cleaning machine until dripping has ceased.

d. Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the airless cleaning machines and air-tight cleaning machines.

e. Spills during solvent transfer and use of the airless cleaning machines and air-tight cleaning machines shall be cleaned up immediately, and the wipe rags or other sorbent material shall be immediately stored in covered containers for disposal or recycling.

f. Work area fans shall be located and positioned so that they do not blow across the airless cleaning machine and air-tight cleaning machine.

g. Spraying operations shall be done in the vapor zone or within a section of the machine that is not exposed to the ambient air.

h. When solvent is added to or drained from the airless cleaning machine and air-tight cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

E. As an alternative to complying with the provisions of subsections B through D above the owner of a solvent cleaning machine may demonstrate compliance with subdivision 1 or 2 of this subsection. The owner shall maintain records sufficient to demonstrate compliance. The records shall include, at a minimum, the quantity of solvent added to and removed from the solvent cleaning machine, the dates of the addition and removal and shall be maintained for not less than 2 years.

1. If the cleaning machine has a solvent/air interface, the owner shall:

a. Maintain a log of solvent additions and removals for each solvent cleaning machine.

b. Ensure that emissions from each solvent cleaning machine are equal to or less than the applicable emission limit presented in Table 4-47B.

Table 4-47B.

EMISSION LIMITS FOR BATCH VAPOR AND IN-LINE SOLVENT CLEANING MACHINES WITH A SOLVENT/AIR INTERFACE

Solvent cleaning machine	3-month rolling average monthly emission limit	
	kg/m^2/month	lb/ft^2/month
Batch vapor solvent cleaning machines	150	30.7
Existing in-line solvent cleaning machines	153	31.3
New in-line solvent cleaning machines	99	20.2

2. If the cleaning machine is a batch vapor cleaning machine and does not have a solvent/air interface, the owner shall:

a. Maintain a log of solvent additions and deletions for each solvent cleaning machine.

b. Ensure that the emissions from each solvent cleaning machine are equal to or less than the appropriate limits as described in subsections 3 and 4 of this section. Each owner of a batch vapor or in-line cleaning machine complying with subsection E shall demonstrate compliance with the applicable 3-month rolling average monthly emission limit on a monthly basis.

3. For cleaning machines with a cleaning capacity that is less than or equal to 2.95 cubic meters, the emission limit shall be determined using Table 4-47A or the equation in subdivision E 4 of this section. If the table is used, and the cleaning capacity of the cleaning machine falls between two cleaning capacity sizes, then the lower of the two emission limits applies.

4. For cleaning machines with a cleaning capacity that is greater than 2.95 cubic meters, the emission limit shall be determined using the following equation:

$$EL = 330\ (vol)^{0.6}$$

where:

EL = the 3-month rolling average monthly emission limit (kilograms/month)

vol = the cleaning capacity of machine (cubic meters)

5. Each owner of a batch vapor or in-line solvent cleaning machine complying with this subsection shall demonstrate compliance with the applicable 3-month rolling average monthly emission limit on a monthly basis. If the applicable 3-month rolling average emission limit is not met, an exceedance has occurred. All exceedances shall be reported to the board within 30 days of the determination of the exceedance.

F. The owner of a batch vapor or in-line solvent cleaning machine complying with subsection E shall maintain records and determine compliance with the applicable provisions in accordance with the following.

1. On the first operating day of every month ensure that the solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent and used solvent that has been cleaned of soils. A fill line shall be indicated during the first month the measurements are made. The solvent level within the machine shall be returned to the same fill-line each month, immediately prior to calculating monthly emissions as specified in

subsection F 2. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.

2. Using the records of all solvent additions and deletions for the previous monthly reporting period, determine solvent emissions (E) using one of the following equations:

For cleaning machines with a solvent/air interface:

$$E = \frac{SA - LSR - SSR}{AREA}$$

where:

E = the total halogenated hazardous air pollutant (HAP) solvent emissions from the solvent cleaning machine during the most recent monthly reporting period (kilograms of solvent per square meter of solvent/air interface area
per month)

SA = the total amount of halogenated HAP liquid solvent added to the solvent cleaning machine during the most recent monthly reporting period (kilograms of solvent per month)

LSR = the total amount of halogenated HAP liquid solvent removed from the solvent cleaning machine during the most recent monthly reporting period (kilograms of solvent per month)

SSR = the total amount of halogenated HAP solvent removed from the solvent cleaning machine in solid waste during the most recent monthly reporting period (kilograms of solvent per month) determined from tests conducted using EPA Reference Method 25d or by engineering calculations included in the compliance report

Area =the solvent/air interface area of the solvent cleaning machine (square meters)

For cleaning machines without a solvent/air interface:

$$E = SA - LSR - SSR$$

where:

E = the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent monthly reporting period i, (kilograms of solvent per month)

SA = the total amount of halogenated HAP liquid solvent added to the solvent cleaning machine during the most recent monthly reporting period (kilograms of solvent per month)

LSR = the total amount of halogenated HAP liquid solvent removed from the solvent cleaning machine during the most recent monthly reporting period (kilograms of solvent per month)

SSR = the total amount of halogenated HAP solvent removed from the solvent cleaning machine in solid waste during the most recent monthly reporting period (kilograms of solvent per month) determined from tests conducted using EPA reference method 25d or by engineering calculations included in the compliance report

3. Determine the monthly rolling average, EA, for the 3-month period ending with the most recent reporting period using one of the following equations:

For cleaning machines with a solvent/air interface:

$$EA = \frac{\sum_{j=1}^{3} E}{3}$$

where:

EA = the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods (kilograms of solvent per square meter of solvent/air interface area per month)

E = halogenated HAP solvent emissions for each month (j) for the most recent 3 monthly reporting periods (kilograms of solvent per square meter of solvent/air interface area)

j=1 = the most recent monthly reporting period

j=2 = the monthly reporting period immediately prior to j=1

j=3 = the monthly reporting period immediately prior to j=2

For cleaning machines without a solvent/air interface:

$$EA = \frac{\sum_{j=1}^{3} E}{3}$$

where:

EA = the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods (kilograms of solvent per month)

E = halogenated HAP solvent emissions for each month (j) for the most recent 3 monthly reporting periods (kilograms of solvent per month)

j=1 = the most recent monthly reporting period

j=2 = the monthly reporting period immediately prior to j=1

j=3 = the monthly reporting period immediately prior to j=2

G. The owner of a solvent cleaning machine subject to the provisions of subsections B through D of this section shall conduct monitoring and record keeping as follows.

1. If a freeboard refrigeration device is used to comply with these standards, the owner shall use a thermometer or thermocouple to measure the temperature at the center of the air blanket during the idling mode. Measurements and recordings shall be made weekly.

2. If a superheated vapor system is used to comply with these standards, the owner shall use a thermometer or thermocouple to measure the temperature at the center of the superheated solvent vapor zone while the solvent cleaning machine is in the idling mode. Measurements and recordings shall be made weekly.

3. If a cover (working-mode, downtime-mode, or idling-mode cover) is used to comply with these standards, the owner shall conduct a visual inspection to determine if the cover is opening and closing properly, completely covers the cleaning machine openings when closed, and is free of cracks, holes, and other defects. Observations and recordings shall be made weekly.

4. If dwell is used, the owner shall determine the actual dwell time by measuring the period of time that parts are held within the freeboard area of the solvent cleaning machine after cleaning. Observations and recordings shall be made monthly.

5. The owner shall determine the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute). Measurements and recordings shall be made monthly.

6. The owner of a batch vapor or in-line solvent cleaning machine complying using reduced room draft, maintained by controlling room parameters (i.e., redirecting fans, closing doors and windows, etc.), shall conduct monitoring and record the results as follows.

a. Initially measure the windspeed within 6 inches above the top of the freeboard area of the solvent cleaning machine in accordance with the following:

(1) Determine the direction of the wind current by slowly rotating a velometer or similar device until the maximum speed is located.

(2) Orient a velometer in the direction of the wind current at each of the four corners of the machine.

(3) Record the reading for each corner.

(4) Average the values obtained at each corner and record the average wind speed.

b. Record the room parameters established during the initial compliance test to achieve the reduced room draft.

c. Quarterly monitoring of the windspeed in accordance with subdivision 6 a of this section.

d. Weekly monitoring of the room parameters as specified in subdivision 6 b of this section.

7. If an enclosure (full or partial) is used to achieve reduced room draft, the owner shall conduct an initial monitoring test and, thereafter, monthly monitoring tests of the windspeed within the enclosure by slowly rotating a velometer inside the entrance to the enclosure until the maximum speed is located and record the maximum wind speed. The owner shall also conduct a monthly visual inspection of the enclosure to determine if it is free of cracks, holes and other defects.

8. The owner of a machine using a carbon adsorber to comply with this section shall measure and record the concentration of halogenated HAP solvent in the exhaust of the carbon adsorber weekly with a colorimetric detector tube. This test shall be conducted while the solvent cleaning machine is in the working mode and is venting to the carbon adsorber. The exhaust concentration shall be determined using a colorimetric detector tube designed to measure a concentration of 100 parts per million by volume of solvent in air to an accuracy of plus or minus 25 parts per million by volume. The concentration shall be determined through a sampling port for monitoring

within the exhaust outlet that is easily accessible and located at least 8 stack or duct diameters downstream and 2 stack or duct diameters upstream from any flow disturbance such as a bend, expansion, contraction, or outlet; downstream from no other inlet.

9 VAC 5-40-6850. Standard for visible emissions.

The provisions of Article 1 (9 VAC 5-40-60 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Visible Emissions and Fugitive Dust/Emissions, Rule 4-1) do not apply.

9 VAC 5-40-6860. Standard for fugitive dust/emissions.

The provisions of Article 1 (9 VAC 5-40-60 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Visible Emissions and Fugitive Dust/Emissions, Rule 4-1) apply.

9 VAC 5-40-6870. Standard for odor.

The provisions of Article 2 (9 VAC 5-40-130 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Odor, Rule 4-2) apply.

9 VAC 5-40-6880. Standard for toxic pollutants.

The provisions of Article 4 (9 VAC 5-60-200 et seq.) of 9 VAC 5 Chapter 60 (Emission Standards for Toxic Pollutants from Existing Sources, Rule 6-4) apply.

9 VAC 5-40-6890. Compliance.

The provisions of subsections B, D, F, and J of 9 VAC 5-40-20 (Compliance) apply. The other provisions of 9 VAC 5-40-20 do not apply.

9 VAC 5-40-6900. Compliance schedules.

Affected persons shall comply with the provisions of this article as expeditiously as possible but in no case later than January 1, 2005.

9 VAC 5-40-6910. Test methods and procedures.

The provisions of 9 VAC 5-40-30 (Emission testing) apply.

9 VAC 5-40-6920. Monitoring.

The provisions of 9 VAC 5-40-40 (Monitoring) apply.

9 VAC 5-40-6930. Notification, records and reporting.

The provisions of 9 VAC 5-40-50 (Notification, records and reporting) apply.

9 VAC 5-40-6940. Registration.

The provisions of 9 VAC 5-20-160 (Registration) apply.

9 VAC 5-40-6950. Facility and control equipment maintenance or malfunction.

The provisions of 9 VAC 5-20-180 (Facility and control equipment maintenance or malfunction) apply.

9 VAC 5-40-6960. Permits.

A permit may be required prior to beginning any of the activities specified below if the provisions of 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) and 9 VAC 5 Chapter 80 (9 VAC 5-80-10 et seq.) apply. Owners contemplating such action should review those provisions and contact the appropriate regional office for guidance on whether those provisions apply.

1. Construction of a facility.

2. Reconstruction (replacement of more than half) of a facility.

3. Modification (any physical change to equipment) of a facility.

4. Relocation of a facility.

5. Reactivation (restart-up) of a facility.

6. Operation of a facility.

COMMONWEALTH OF VIRGINIA

STATE AIR POLLUTION CONTROL BOARD

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9 VAC 5 CHAPTER 40.

EXISTING SOURCES.

PART II.

Emission Standards.

ARTICLE 48.

Emission Standards for Mobile Equipment Repair and Refinishing Operations in the Northern Virginia Volatile Organic Compound Emission Control Area (Rule 4-48).

9 VAC 5-40-6970. Applicability and designation of affected facility.

9 VAC 5-40-6980. Definitions.

9 VAC 5-40-6990. Standard for volatile organic compounds.

9 VAC 5-40-7000. Standard for visible emissions.

9 VAC 5-40-7010. Standard for fugitive dust/emissions.

9 VAC 5-40-7020. Standard for odor.

9 VAC 5-40-7030. Standard for toxic pollutants.

9 VAC 5-40-7040. Compliance.

9 VAC 5-40-7050. Compliance schedule.

9 VAC 5-40-7060. Test methods and procedures.

9 VAC 5-40-7070. Monitoring.

9 VAC 5-40-7080. Notification, records and reporting.

9 VAC 5-40-7090. Registration.

9 VAC 5-40-7100. Facility and control equipment maintenance or malfunction.

9 VAC 5-40-7110. Permits.

9 VAC 5-40-6970. Applicability and designation of affected facility.

A. Except as provided in subsection C of this section, the affected facility to which the provisions of this article apply is each mobile equipment repair and refinishing operation. Certain provisions also apply to each person providing or selling affected coatings.

B. The provisions of this article apply only to sources and persons in the Northern Virginia volatile organic compounds emissions control area designated in 9 VAC 5-20-206.

C. The provisions of this article do not apply under any of the following circumstances:

1. The mobile equipment repair and refinishing operation is subject to Article 28 (9 VAC 5-40-3860 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Automobile and Light Duty Truck Coating Application Systems).

2. The mobile equipment repair and refinishing operation is subject to Article 34 (9 VAC 5-40-4760 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Miscellaneous Metal Parts and Products Coating Application Systems).

3. The person applying the coatings does not receive compensation for the application of the coatings.

9 VAC 5-40-6980. Definitions.

A. For the purpose of applying this article in the context of the Regulations for the Control and Abatement of Air Pollution and related uses, the words or terms shall have the meaning given them in subsection C of this section.

B. As used in this article, all terms not defined herein shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

C. Terms defined.

"Airless spray" means a spray coating method in which the coating is atomized by forcing it through a small nozzle opening at high pressure. The coating is not mixed with air before exiting from the nozzle opening.

"Antique motor vehicle" means a motor vehicle, but not a reproduction thereof, manufactured more than 25 years prior to the current year which has been maintained in or restored to a condition which is substantially in conformance with manufacturer specifications.

"Automotive elastomeric coating" means a coating designed for application over surfaces of flexible mobile equipment and mobile equipment components, such as elastomeric bumpers.

"Automotive impact-resistant coating" means a coating designed to resist chipping caused by road debris.

"Automotive jambing clearcoat" means a fast-drying, ready-to-spray clearcoat applied to surfaces such as door jambs and trunk and hood edges to allow for quick closure.

"Automotive lacquer" means a thermoplastic coating applied directly to

bare metal surfaces of mobile equipment and mobile equipment components which dries primarily by solvent evaporation, and which is resoluble in its original solvent.

"Automotive low-gloss coating" means a coating which exhibits a gloss reading less than or equal to 25 on a 60° glossmeter.

"Automotive multi-colored topcoat" means a topcoat that exhibits more than one color, is packaged in a single container, and camouflages surface defects on areas of heavy use, such as cargo beds and other surfaces of trucks and other utility vehicles.

"Automotive pretreatment" means a primer that contains a minimum of 0.5% acid, by weight, that is applied directly to bare metal surfaces of mobile equipment and mobile equipment components to provide corrosion resistance and to promote adhesion of subsequent coatings.

"Automotive primer-sealer" means a coating applied to mobile equipment and mobile equipment components prior to the application of a topcoat for the purpose of providing corrosion resistance, promoting adhesion of subsequent coatings, promoting color uniformity, and promoting the ability of the undercoat to resist penetration by the topcoat.

"Automotive primer-surfacer" means a coating applied to mobile equipment and mobile equipment components prior to the application of topcoat for the purpose of filling surface imperfections in the substrate; providing corrosion resistance; or promoting adhesion of subsequent coatings.

"Automotive specialty coating" means coatings including, but not limited to, elastomeric coatings, adhesion promoters, low gloss coatings, bright metal trim repair coatings, jambing clearcoats, impact resistant coatings, rubberized asphaltic underbody coatings, uniform finish blenders, weld-through primers applied to automotive surfaces and lacquer topcoats applied to a classic motor vehicle or to an antique motor vehicle.

"Automotive topcoat" means a coating or series of coatings applied over an automotive primer-surfacer, automotive primer-sealer or existing finish on the surface of mobile equipment and mobile equipment components for the purpose of protection or beautification.

"Automotive touch up repair" means the application of automotive topcoat finish materials to cover minor finishing imperfections equal to or less than 1 inch in diameter.

"Classic motor vehicle" means a motor vehicle, but not a reproduction

thereof, manufactured at least 15 years prior to the current year which has been maintained in or restored to a condition which is substantially in conformity with manufacturer specifications and appearance.

"Mobile equipment" means equipment which may be driven or is capable of being driven on a roadway including, but not limited to automobiles; trucks, truck cabs, truck bodies and truck trailers; buses; motorcycles; utility bodies; camper shells; mobile cranes; bulldozers; street cleaners; golf carts; ground support vehicles, used in support of aircraft activities at airports; and farm equipment.

"Mobile equipment repair and refinishing operation" means any facility that applies automotive pretreatment, automotive primer-surface, automotive primer-sealer, automotive topcoat, or automotive specialty or color matched coatings to mobile equipment or mobile equipment components.

9 VAC 5-40-6990. Standard for volatile organic compounds.

A. No owner or other person shall cause or permit the discharge into the atmosphere from any mobile equipment repair and refinishing operation coating any volatile organic compounds (VOC) in excess of the limits specified in Table 4-48A.

Table 4-48A.

Allowable Content of VOCs in Mobile Equipment Repair and Refinishing Coatings

(as applied)

Weight of VOC per Volume of Coating (minus water and non-VOC solvents)

Coating Type	*Limit*	
	Pounds per gallon	*Grams per Liter*
Automotive pretreatment primer	6.5	780
Automotive primer-surfacer	4.8	575
Automotive primer-sealer	4.6	550
Automotive topcoat:		
single stage-topcoat	5.0	600
2 stage basecoat/clearcoat	5.0	600

3 or 4-stage basecoat/clearcoat	5.2	625
Automotive Multi-colored Topcoat	5.7	680
Automotive specialty	7.0	840

B. Achievement of the emission standard in subsection A of this section by use of the methods in 9 VAC 5-40-6990 will be acceptable to the board.

1. The mass of VOC per combined volume of VOC and coating solids, less water and exempt compounds shall be calculated by the following equation:

$$VOC = \frac{(Wv - Ww - Wec)}{(V - Vw - Vec)}$$

where:

VOC = VOC content in grams per liter (g/l) of coating less water and non-VOC solvents,

W_V = Mass of total volatiles, in grams;

W_W = Mass of water, in grams;

W_{ec} = Mass of exempt compounds, in grams;

V = Volume of coating, in liters;

V_W = Volume of water, in liters; and

V_{ec} = Volume of exempt compounds, in liters.

To convert from grams per liter to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345 x 10^{-3} (lb/gal/g/l).

2. The VOC content of a multi-stage topcoat shall be calculated by the following equation:

$$VOCmulti = \frac{VOCbc + \sum_{i=0}^{M} VOCmci + 2(VOCcc)}{M + 3}$$

where:

VOCmulti = VOC content of multistage topcoat, g//

VOCbc = VOC content of basecoat, g//

VOCmci = VOC content of the midcoat(s), g//

VOCcc = VOC content of the clear coat, g//

M = number of midcoats

C. A person subject to the provisions of this section shall use one or more of the following application techniques to apply any finish material listed in Table 4-48A:

1. Flow/curtain coating;

2. Dip coating;

3. Roller coating;

4. Brush coating;

5. Cotton-tipped swab application;

6. Electrodeposition coating;

7. High volume low pressure (HVLP) spraying;

8. Electrostatic spray;

9. Airless spray; or

10. Other coating application methods that the person has demonstrated and the board has determined achieve emission reductions equivalent to HVLP or electrostatic spray application methods.

D. The following activities are exempt from the application equipment requirements listed in subsections E and F of this section:

1. The use of airbrush application methods for stenciling, lettering, and other identification markings;

2. The application of coatings sold in nonrefillable aerosol containers; and

3. The application of automotive touch-up repair finish materials.

E. Spray guns used to apply mobile equipment repair and refinishing coatings shall be cleaned by one of the following:

1. An enclosed spray gun cleaning system that is kept closed when not in use;

2. Unatomized discharge of solvent into a paint waste container that is kept closed when not in use;

3. Disassembly of the spray gun and cleaning in a vat that is kept

closed when not in use; or

4. Atomized spray into a paint waste container that is fitted with a device designed to capture atomized solvent emissions.

F. The owner of a facility subject to the provisions of this article shall implement the following housekeeping and pollution prevention and training measures:

1. Fresh and used coatings, solvent, and cleaning solvents, shall be stored in nonabsorbent, nonleaking containers. The containers shall be kept closed at all times except when filling or emptying;

2. Cloth and paper, or other absorbent applicators, moistened with coatings, solvents, or cleaning solvents, shall be stored in closed, nonabsorbent, nonleaking containers;

3. Handling and transfer procedures shall minimize spills during the transfer of coatings, solvents, and cleaning solvents; and

4. Ensure that a person who applies mobile equipment repair and refinishing coatings has completed training in the proper use and handling of the mobile equipment repair and refinishing coatings, solvents and waste products in order to

minimize the emission of air contaminants and to comply with this section.

9 VAC 5-40-7000. Standard for visible emissions.

The provisions of Article 1 (9 VAC 5-40-60 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Visible Emissions and Fugitive Dust/Emissions, Rule 4-1) do not apply.

9 VAC 5-40-7010. Standard for fugitive dust/emissions.

The provisions of Article 1 (9 VAC 5-40-60 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Visible Emissions and Fugitive Dust/Emissions, Rule 4-1) apply.

9 VAC 5-40-7020. Standard for odor.

The provisions of Article 2 (9 VAC 5-40-130 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Odor, Rule 4-2) apply.

9 VAC 5-40-7030. Standard for toxic pollutants.

The provisions of Article 4 (9 VAC 5-60-200 et seq.) of 9 VAC 5 Chapter 60 (Emission Standards for Toxic Pollutants from Existing Sources, Rule 6-4) apply.

9 VAC 5-40-7040. Compliance.

The provisions of subsections B, D, F, and J of 9 VAC 5-40-20 (Compliance) apply. The other provisions of 9 VAC 5-40-20 do not apply.

9 VAC 5-40-7050. Compliance schedule.

Affected persons shall comply with the provisions of this article as expeditiously as possible but in no case later than January 1, 2005.

9 VAC 5-40-7060. Test methods and procedures.

The provisions of 9 VAC 5-40-30 (Emission testing) apply.

9 VAC 5-40-7070. Monitoring.

The provisions of 9 VAC 5-40-40 (Monitoring) apply.

9 VAC 5-40-7080. Notification, records and reporting.

The provisions of 9 VAC 5-40-50 (Notification, records and reporting) apply.

9 VAC 5-40-7090. Registration.

The provisions of 9 VAC 5-20-160 (Registration) apply.

9 VAC 5-40-7100. Facility and control equipment maintenance or malfunction.

The provisions of 9 VAC 5-20-180 (Facility and control equipment maintenance or malfunction) apply.

9 VAC 5-40-7110. Permits.

A permit may be required prior to beginning any of the activities specified below if the provisions of 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) and 9 VAC 5 Chapter 80 (9 VAC 5-80-10 et seq.) apply. Owners contemplating such action should review those provisions and contact the appropriate regional office for guidance on whether those provisions apply.

1. Construction of a facility.

2. Reconstruction (replacement of more than half) of a facility.

3. Modification (any physical change to equipment) of a facility.

4. Relocation of a facility.

5. Reactivation (restart-up) of a facility.

6. Operation of a facility.

COMMONWEALTH OF VIRGINIA

STATE AIR POLLUTION CONTROL BOARD

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9 VAC 5 CHAPTER 40.

EXISTING SOURCES.

PART II.

Emission Standards.

ARTICLE 49.

Emission Standards for Architectural and Industrial Maintenance Coatings in the Northern Virginia Volatile Organic Compound Emissions Control Area (Rule 4-49).

9 VAC 5-40-7120. Applicability.

9 VAC 5-40-7130. Definitions.

9 VAC 5-40-7140. Standard for volatile organic compounds.

9 VAC 5-40-7150. Container labeling requirements.

9 VAC 5-40-7160. Standard for visible emissions.

9 VAC 5-40-7170. Standard for fugitive dust/emissions.

9 VAC 5-40-7180. Standard for odor.

9 VAC 5-40-7190. Standard for toxic pollutants.

9 VAC 5-40-7200. Compliance.

9 VAC 5-40-7210. Compliance schedules.

9 VAC 5-40-7220. Test methods and procedures.

9 VAC 5-40-7230. Notification, records and reporting.

9 VAC 5-40-7120. Applicability.

A. Except as provided in subsection C of this section, the provisions of this article apply to any person who supplies, sells, offers for sale, or manufactures any architectural coating for use, as well as any person who applies or solicits the application of any architectural coating.

B. The provisions of this article apply only to sources and persons in the Northern Virginia volatile organic compound emissions control area designated in 9 VAC 5-20-206.

C. The provisions of this article do not apply to:

1. Any architectural coating that is sold or manufactured for use exclusively outside of the Northern Virginia Volatile Organic Compounds Emission Control Area or for shipment to other manufacturers for reformulation or repackaging.

2. Any aerosol coating product.

3. Any architectural coating that is sold in a container with a volume of one liter (1.057 quart) or less.

9 VAC 5-40-7130. Definitions.

A. For the purpose of applying this article in the context of the Regulations for the Control and Abatement of Air Pollution and related uses, the words or terms shall have the meaning given them in subsection C of this section.

B. As used in this article, all terms not defined herein shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

C. Terms defined.

"Adhesive" means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

"Aerosol coating product" means a pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a

disposable can for hand-held application, or for use in specialized equipment for ground traffic/marking applications.

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

"Antifouling coating" means a coating labeled and formulated for application to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms. To qualify as an antifouling coating, the coating shall be registered with both the U.S. EPA under the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. § 136 et. seq.) and with the Pesticide Control Board under the provisions of the Virginia Pesticide Control Act (Chapter 14.1 of the Code of Virginia, § 3.1-249.27 et seq.).

"Appurtenance" means any accessory to a stationary structure coated at the site of installation, whether installed or detached, 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; lampposts; partitions pipes and piping systems; rain gutters and downspouts; stairways; fixed ladders; catwalks and fire escapes; and window screens.

"Architectural coating" means a coating to be applied to stationary structures or the appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. Coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles, and adhesives are not considered architectural coatings for the purposes of this article.

"Bitumens" means 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 or as residues from the distillation of crude petroleum or coal.

"Bituminous roof coating" means a coating which incorporates bitumens that is labeled and formulated exclusively for roofing.

"Bituminous roof primer" means a primer which incorporates bitumens that is labeled and formulated exclusively for roofing.

"Bond breaker" means a coating labeled and formulated 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.

"Clear brushing lacquers" means clear wood finishes, excluding clear lacquer

sanding sealers, formulated with nitrocellulose or synthetic resins to dry by solvent evaporation without chemical reaction and to provide a solid, protective film, which are intended exclusively for application by brush and which are labeled as specified in 9 VAC 5-40-7150 5.

"Clear wood coatings" means clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.

"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, sealers, and stains.

"Colorant" means a concentrated pigment dispersion in water, solvent, or binder that is added to an architectural coating after packaging in sale units to produce the desired color.

"Concrete curing compound" means a coating labeled and formulated for application to freshly poured concrete to retard the evaporation of water.

"Dry fog coating" means a coating labeled and formulated only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the

vicinity of the surface coating activity.

"Exempt compound" means a compound identified as exempt under the definition of Volatile Organic Compound (VOC) in 9 VAC 5-10-20. Exempt compounds content of a coating shall be determined by Reference Method 24 or South Coast Air Quality Management District (SCAQMD) Method for Determination of Exempt Compounds, incorporated by reference in 9 VAC 5-20-21.

"Faux finishing coating" means a coating labeled and formulated as a stain or a glaze to create artistic effects including, but not limited to, dirt, old age, smoke damage, and simulated marble and wood grain.

"Fire-resistive coating" means an opaque coating labeled and formulated to protect the structural integrity by increasing the fire endurance of interior or exterior steel and other structural materials, that has been fire tested and rated by a testing agency and approved by building code officials for use in bringing assemblies of structural materials into compliance with federal, state, and local building code requirements. The fire-resistive coating shall be tested in accordance with American Society for Testing and Materials (ASTM) Standard Test Method for Fire Tests of Building Construction Materials, incorporated by reference in 9 VAC 5-20-21.

"Fire-retardant coating" means a coating labeled and formulated to retard ignition

and flame spread, that has been fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state, and local building code requirements. The fire-retardant coating shall be tested in accordance with ASTM Standard Test Method for Surface Burning Characteristics of Building Construction Materials, incorporated by reference in 9 VAC 5-20-21.

"Flat coating" means a coating that is not defined under any other definition in this article and that registers gloss less than 15 on an 85-degree meter or less than five on a 60-degree meter according to ASTM Standard Test Method for Specular Gloss, incorporated by reference in 9 VAC 5-20-21.

"Floor coating" means an opaque coating that is labeled and formulated for application to flooring, including, but not limited to, decks, porches, steps, and other horizontal surfaces, which may be subjected to foot traffic.

"Flow coating" means a coating labeled and formulated exclusively for use by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units.

"Form-release compound" means a coating labeled and formulated for application to a concrete form to prevent the freshly poured 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 labeled and formulated for hand-application by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals including letter enamels, poster colors, copy blockers, and bulletin enamels.

"High-temperature coating" means a high-performance coating labeled and formulated for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).

"Industrial maintenance coating" means a high-performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats, formulated for application to substrates exposed to one or more of the following extreme environmental conditions, and labeled as specified in 9 VAC 5-40-7150 4:

1. Immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposures 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 121°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.

"Lacquer" means a clear or opaque wood coating, 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.

"Low-solids coating" means a coating containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material.

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

"Mastic texture coating" means a coating labeled and formulated 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 coating containing at least 48 grams of elemental metallic pigment per liter of coating as applied (0.4 pounds per gallon), when tested in accordance with South Coast Air Quality Air Management District (SCAQMD) Method for Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction, incorporated by reference in 9 VAC 5-20-21.

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

"Non-flat coating" means a coating that is not defined under any other definition in this article and that registers a gloss of 15 or greater on an 85-degree meter and 5 or greater on a 60-degree meter according to ASTM Standard Test Method for Specular Gloss, incorporated by reference in 9 VAC 5-20-21.

"Non-flat high-gloss coating" means a non-flat coating that registers a gloss of 70 or above on a 60-degree meter according to ASTM Standard Test Method for Specular Gloss, incorporated by reference in 9 VAC 5-20-21.

"Nonindustrial use" means any use of architectural coatings except in the construction or maintenance of any of the following: facilities used in the manufacturing of goods and commodities; transportation infrastructure, including highways, bridges, airports

and railroads; facilities used in mining activities, including petroleum extraction; and utilities infrastructure, including power generation and distribution, and water treatment and distribution systems.

"Post-consumer coating" means a finished coating that would have been disposed of in a landfill, having completed its usefulness to a consumer, and does not include manufacturing wastes.

"Pre-treatment wash primer" means a primer that contains a minimum of 0.5 acid, by weight, when tested in accordance with ASTM Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and Related Products, incorporated by reference in 9 VAC 5-20-21, that is labeled and formulated for application directly to bare metal surfaces to provide corrosion resistance and to promote adhesion of subsequent topcoats.

"Primer" means a coating labeled and formulated for application to a substrate to provide a firm bind between the substrate and subsequent coats.

"Quick-dry enamel" means a non-flat coating that is labeled as specified in 9 VAC 5-40-7150 8 and that is formulated to have 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 Standard Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature, incorporated by reference in 9 VAC 5-20-21, sets to touch in two hours or less, is tack free in four hours or less, and dries hard in eight 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 30 minutes and can be re-coated in two hours when tested in accordance with ASTM Standard Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature, incorporated by reference in 9 VAC 5-20-21.

"Recycled coating" means an architectural coating formulated such that not less than 50% of the total weight consists of secondary and post-consumer coating, with not less than 10% of the total weight consisting of post-consumer coating.

"Residence" means areas where people reside or lodge, including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.

"Roof coating" means a non-bituminous coating labeled and formulated exclusively for application to roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and ultraviolet radiation. Metallic pigmented roof coatings, which qualify as metallic pigmented coatings, shall not be considered in this category, but shall be considered to be in the metallic pigmented coatings category.

"Rust-preventive coating" means a coating formulated exclusively for nonindustrial use to prevent the corrosion of metal surfaces and labeled as specified in 9 VAC 5-40-7150 6.

"Sanding sealer" means a clear or semi-transparent wood coating labeled and formulated for application to bare wood to seal the wood and to provide a coat that can be abraded to create a smooth surface for subsequent applications of coatings. A sanding sealer that also meets the definition of a lacquer is not included in this category, but it is included in the lacquer category.

"Sealer" means a coating labeled and formulated for application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate.

"Secondary coating (rework)" means a fragment of a finished coating or a finished

coating from a manufacturing process that has converted resources into a commodity of real economic value, but does not include excess virgin resources of the manufacturing process.

"Shellac" means a clear or opaque coating formulated solely with the resinous secretions of the lac beetle (Laciffer lacca), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

"Shop application" means the application of a coating to a product or a component of a product in or on the premises of a factory or a shop as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).

"Solicit" means to require for use or to specify, by written or oral contract.

"Specialty primer, sealer, and undercoater" means a coating labeled as specified in 9 VAC 5-40-7150 7 and that is formulated for application to a substrate to seal fire, smoke or water damage; to condition excessively chalky surfaces; or to block stains. An excessively chalky surface is one that is defined as having a chalk rating of four or less as determined by ASTM Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films, incorporated by reference in 9 VAC 5-20-21.

"Stain" means a clear, semi-transparent, or opaque coating labeled and formulated

to change the color of a surface, but not conceal the grain pattern or texture.

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

"Swimming pool repair and maintenance coating" means a rubber-based coating labeled and formulated to be used over existing rubber-based coatings for the repair and maintenance of swimming pools.

"Temperature-indicator safety coating" means a coating labeled and formulated as a color-changing indicator coating for the purpose of monitoring the temperature and safety of the substrate, underlying piping, or underlying equipment, and for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).

"Tint base" means an architectural coating to which colorant is added after packaging in sale units to produce a desired color.

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

"Undercoater" means a coating labeled and formulated to provide a smooth surface

for subsequent coatings.

"Varnish" means a clear or semi-transparent wood coating, excluding lacquers and shellacs, formulated to dry by chemical reaction on exposure to air. Varnishes may contain small amounts of pigment to color a surface, or to control the fetal sheen or gloss of the finish.

"VOC content" means the weight of VOC per volume of coating, calculated according to the procedures specified in 9 VAC 5-40-7220 B.

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

"Waterproofing concrete/masonry sealer" means a clear or pigmented film-forming coating that is labeled and formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, and staining.

"Wood preservative" means a coating labeled and formulated to protect exposed wood from decay or insect attack, that is registered with both the U.S. EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136, et. seq.) and with the Pesticide Control Board under the provisions of the Virginia Pesticide Control Act (Chapter 14. 1 of the Code of Virginia, § 3.1-249.27 et seq.).

9 VAC 5-40-7140. Standard for volatile organic compounds.

A. Except as provided in this section, no person shall (i) manufacture, blend, or repackage for sale, (ii) supply, sell, or offer for sale, or (iii) solicit for application or apply any architectural coating with a VOC content in excess of the corresponding limit specified in Table 4-49A.

B. 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 any person acting on behalf of a manufacturer, any representation is made that indicates that the coating meets the definition of or is recommended for use for more than one of the coating categories listed in Table 4-49A, then the most restrictive VOC content limit shall apply. This provision does not apply to the following coating categories:

Lacquer coatings (including lacquer sanding sealers);

Metallic pigmented coatings;

Shellacs;

Fire-retardant coatings;

Pretreatment wash primers;

Industrial maintenance coatings;

Low-solids coatings;

Wood preservatives;

High-temperature coatings;

Temperature-indicator safety coatings;

Antenna coatings;

Antifouling coatings;

Flow coatings;

Bituminous roof primers; and

Specialty primers, sealers, and undercoaters.

Table 4-49A.

VOC Content Limits for Architectural Coatings

Limits are expressed in grams of VOC per liter[1] of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water, exempt compounds, or colorant added to tint bases. “Manufacturers maximum recommendation” means the maximum recommendation for thinning that is indicated on the label or lid of the coating container.

Coating Category	**VOC Content Limit**
Flat Coatings	100

Non-flat Coatings	150
Non-flat- High Gloss Coatings	250

Specialty Coatings

Antenna Coatings	530
Antifouling Coatings	400
Bituminous Roof Coatings	300
Bituminous Roof Primers	350
Bond Breakers	350
Clear Wood Coatings	
• Clear Brushing Lacquers	680
• Lacquers (including lacquer sanding sealers)	550
• Sanding Sealers (other than lacquer sanding sealers)	350
• Varnishes	350
Concrete Curing Compounds	350
Dry Fog Coatings	400
Faux Finishing Coatings	350
Fire-Resistive Coatings	350
Fire-Retardant Coatings	
• Clear	650
• Opaque	350

[1] Conversion factor: one pound of VOC per gallon (U.S.) = 119.95 grams per liter.

Floor Coatings	250
Flow Coatings	420
Form-Release Compounds	250
Graphic Arts Coatings (Sign Paints)	500
High-Temperature Coatings	420
Industrial Maintenance Coatings	340
Low-Solids Coatings	120
Magnesite Cement Coatings	450
Mastic Texture Coatings	300
Metallic Pigmented Coatings	500
Multi-Color Coatings	250
Pre-Treatment Wash Primers	420
Primers, Sealers, and Undercoaters	200
Quick-Dry Enamels	250
Quick-Dry Primers, Sealers and Undercoaters	200
Recycled Coatings	250
Roof Coatings	250
Rust Preventative Coatings	400
Shellacs	
• Clear	730
• Opaque	550
Specialty Primers, Sealers, and Undercoaters	350

Stains	250
Swimming Pool Coatings	340
Swimming Pool Repair and Maintenance Coatings	340
Temperature-Indicator Safety Coatings	550
Traffic Marking Coatings	150
Waterproofing Sealers	250
Waterproofing Concrete/Masonry Sealers	400
Wood Preservatives	350

C. A coating manufactured prior to January 1, 2005, may be sold, supplied, or offered for sale until December 31, 2007. In addition, a coating manufactured before January 1, 2005, may be applied at any time, both before and after January 1, 2005, so long as the coating complied with the standards in effect at the time the coating was manufactured. This subsection does not apply to any coating that does not display the date or date code required by 9 VAC 5-40-7150 1.

D. All architectural coating containers used to apply the contents therein to a surface directly from the container by pouring, siphoning, brushing, rolling, padding, ragging, or other means, shall be closed when not in use. These architectural coatings containers include, but are not limited to, drums, buckets, cans, pails, trays, or other application containers. Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use.

E. No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in Table 4-49A.

F. No person shall apply or solicit the application of any rust preventive coating for industrial use, unless such a rust preventive coating complies with the industrial maintenance coating VOC limit specified in Table 4-49A.

G. For any coating that does not meet any of the definitions for the specialty coatings categories listed in Table 4-49A, the VOC content limit shall be determined by classifying the coating as a flat coating or a non-flat coating, based on its gloss, as defined in 9 VAC 5-40-7130 C, and the corresponding flat or non-flat coating limit shall apply.

H. Notwithstanding the provisions of subsection A of this section, up to 10% by volume of VOC may be added to a lacquer to avoid blushing of the finish during days with relative humidity greater than 70% and temperature below 65°F, at the time of application, provided that the coating contains acetone and no more than 550 grams of VOC per liter of coating, less water and exempt compounds, prior to the addition of VOC.

9 VAC 5-40-7150. Container labeling requirements.

Each manufacturer of any architectural coatings subject to this article shall display the information listed in subdivisions 1 through 8 of this section on the coating container (or label) 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. If the manufacturer uses a date code for any coating, the manufacturer shall file an explanation of each code with the board.

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 shall specify that the coating is to be applied without thinning.

3. Each container of any coating subject to this article shall display either the maximum or the actual VOC content of the coating, as supplied, including the maximum thinning as recommended by the manufacturer. VOC content shall be displayed in grams of VOC per liter of coating. VOC content displayed shall be calculated using product formulation data, or shall be determined using the test methods in 9 VAC 5-40-7220 C. The equations in 9 VAC 5-40-7220 B shall be used to calculate VOC content.

4. In addition to the information specified in subdivisions 1, 2, and 3 of this section, each manufacturer of any industrial maintenance coating subject to this article shall display on the label or the lid of the container in which the coating is sold or distributed one or more of the descriptions listed in subdivisions a, b, and c of this subsection.

a. "For industrial use only."

b. "For professional use only."

c. "Not for residential use" or "Not intended for residential use."

5. The labels of all clear brushing lacquers shall prominently display the statements "For brush application only," and "This product shall not be thinned or sprayed."

6. The labels of all rust preventive coatings shall prominently display the statement "For Metal Substrates Only."

7. The labels of all specialty primers, sealers, and undercoaters shall prominently display one or more of the descriptions listed in subdivisions a through e of this subsection.

a. For blocking stains.

b. For fire-damaged substrates.

c. For smoke-damaged substrates.

d. For water-damaged substrates.

e. For excessively chalky substrates.

8. The labels of all quick dry enamels shall prominently display the words “Quick Dry” and the dry hard time.

9. The labels of all non-flat high-gloss coatings shall prominently display the words “High Gloss.”

9 VAC 5-40-7160. Standard for visible emissions.

The provisions of Article 1 (9 VAC 5-40-60 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Visible Emissions and Fugitive Dust/Emissions, Rule 4-1) do not apply.

9 VAC 5-40-7170. Standard for fugitive dust/emissions.

The provisions of Article 1 (9 VAC 5-40-60 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Visible Emissions and Fugitive Dust/Emissions, Rule 4-1) apply.

9 VAC 5-40-7180. Standard for odor.

The provisions of Article 2 (9 VAC 5-40-130 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Odor, Rule 4-2) apply.

9 VAC 5-40-7190. Standard for toxic pollutants.

The provisions of Article 4 (9 VAC 5-60-200 et seq.) of 9 VAC 5 Chapter 60 (Emission Standards for Toxic Pollutants from Existing Sources, Rule 6-4) do not apply.

9 VAC 5-40-7200. Compliance.

The provisions of subsections B, D, F, and J of 9 VAC 5-40-20 (Compliance) apply. The other provisions of 9 VAC 5-40-20 do not apply.

9 VAC 5-40-7210. Compliance schedules.

Affected persons shall comply with the provisions of this article as expeditiously as

possible but in no case later than January 1, 2005.

9 VAC 5-40-7220. Test methods and procedures.

A. The provisions of subsection G of 9 VAC 5-40-30 (Emission testing) apply. The other provisions of 9 VAC 5-40-30 do not apply.

B. For the purpose of determining compliance with the VOC content limits in Table 4-49A, the VOC content of a coating shall be determined by using the procedures described in subdivision 1 or 2 of this subsection, as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured.

1. With the exception of low solids coatings, 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. Determine the VOC content using equation 1 as follows:

$$\text{Equation 1: VOC Content} = \frac{(Ws - Ww - Wec)}{(Vm - Vw - Vec)}$$

Where:

VOC content = grams of VOC per liter of coating

Ws = weight of volatiles, in grams

Ww = weight of water, in grams

Wec = weight of exempt compounds, in grams

Vm = volume of coating, in liters

Vw = volume of water, in liters

Vec = volume of exempt compounds, in liters

2. For low solids coatings, 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. Determine the VOC content using equation 2 as follows:

$$\text{Equation 2: VOC Content (ls)} = \frac{(Ws - Ww - Wec)}{(Vm)}$$

Where:

VOC Content (ls) = the VOC content of a low solids coating in grams per liter of coating

Ws = weight of volatiles, in grams

Ww = weight of water, in grams

Wec = weight of exempt compounds, in grams

Vm = volume of coating, in liters

C. To determine the physical properties of a coating in order to perform the calculations in subsection B, the reference method for VOC content is Reference Method 24, incorporated by reference in 9 VAC 5-20-21. The exempt compounds content shall be determined by SCAQMD Method for Determination of Exempt Compounds, incorporated by reference in 9 VAC 5-20-21. To determine the VOC content of a coating, the manufacturer may use Reference Method 24, 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 Reference Method 24 test and any other means for determining VOC content, the Reference Method 24 results will govern. The board may require the manufacturer to conduct a Reference Method 24 analysis.

D. The following test methods are incorporated by reference in 9 VAC 5-20-21, and shall be used to test coatings subject to the provisions of this article:

1. The flame spread index of a fire-retardant coating shall be determined by ASTM Standard Test Method for Surface Burning Characteristics of Building Materials (see section 2, Fire-Retardant Coating).

2. The fire-resistance rating of a fire-resistive coating shall be

determined by ASTM Standard Test Methods for Fire Tests of Building Construction Materials (see section 2, Fire-Resistive Coating).

3. The gloss of a coating shall be determined by ASTM Standard Test Method for Specular Gloss (see section 2, Flat Coating, Non-flat Coating, Non-flat - High-Gloss Coating, and Quick Dry Enamel).

4. The metallic content of a coating shall be determined by SCAQMD Method for Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction (see section 2, Metallic Pigmented Coating).

5. The acid content of a coating shall be determined by ASTM Method Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and Related Products (see section 2, Pre-Treatment Wash Primer).

6. The set-to-touch, dry-hard, dry-to-touch and dry-to-recoat times of a coating shall be determined by ASTM Standard Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature (see section 2, Quick-Dry Enamel and Quick-Dry Primer, Sealer, and Undercoater). The tack free time of a quick-dry enamel coating shall be determined by the Mechanical Test Method of ASTM Standard Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature.

7. The chalkiness of a surface shall be determined using ASTM Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films (see section 2, Specialty Primer, Sealer, and Undercoater).

8. Exempt compounds that are cyclic, branched, or linear, completely methylated siloxanes shall be analyzed as exempt compounds for compliance with section 6 by Bay Area Quality Management District (BAAQMD) Method for Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials (see section 2, Volatile Organic Compounds).

9. The exempt compound parachlorobenzotrifluoride shall be analyzed as an exempt compound for compliance with 9 VAC 5-40-7220 by BAAQMD Method for Determination of Volatile Organic Compounds in Solvent-Based Coatings and Related Materials Containing Parachlorobenzotrifluoride (see section 2, Volatile Organic Compound, and 9 VAC 5-40-7220 C).

10. The content of compounds exempt under Reference Method 24 shall be analyzed by SCAQMD Method for Determination of Exempt Compounds, Laboratory Methods of Analysis for Enforcement Samples (see section 2, Volatile Organic Compound, and 9 VAC 5-40-7220 C).

11. The VOC content of a coating shall be determined by Reference Method 24 (see 9 VAC 5-40-7220 C).

12. The VOC content of coatings may be analyzed by either Reference Method 24 or SCAQMD Method for Determination of Exempt Compounds, Laboratory Methods of Analysis for Enforcement Samples (see 9 VAC 5-40-7220 C).

13. The VOC content of methacrylate multicomponent coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR Part 59, subpart D, appendix A, Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings.

14. Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to a modification of Reference Method 24.

9 VAC 5-40-7230. Notification, records and reporting.

A. The provisions of subsections D, E, F, and H of 9 VAC 5-40-50 (Notification, records and reporting) apply. The other provisions of 9 VAC 5-40-50 do not apply.

B. Each manufacturer of clear brushing lacquers shall, on or before April 1 of each calendar year beginning in the year 2005, submit an annual report to the board. The

report shall specify the number of gallons of clear brushing lacquers sold during the preceding calendar year, and shall describe the method used by the manufacturer to calculate sales.

C. Each manufacturer of rust preventive coatings shall, on or before April 1 of each calendar year beginning in the year 2005, submit an annual report to the board. The report shall specify the number of gallons of rust preventive coatings sold during the preceding calendar year, and shall describe the method used by the manufacturer to calculate sales.

D. Each manufacturer of specialty primers, sealers, and undercoaters shall, on or before April 1 of each calendar year beginning in the year 2005, submit an annual report to the board. The report shall specify the number of gallons of specialty primers, sealers, and undercoaters sold during the preceding calendar year, and shall describe the method used by the manufacturer to calculate sales.

E. For each architectural coating that contains perchloroethylene or methylene chloride, the manufacturer shall, on or before April 1 of each calendar year beginning with the year 2005, report to the board the following information for products sold during the preceding year:

1. The product brand name and a copy of the product label with the

legible usage instructions;

2. The product category listed in Table 4-49A to which the coating belongs;

3. The total sales during the calendar year to the nearest gallon;

4. The volume percent, to the nearest 0.10%, of perchloroethylene and methylene chloride in the coating.

F. Manufacturers of recycled coatings shall submit a letter to the board certifying their status as a Recycled Paint Manufacturer. The manufacturer shall, on or before April 1 of each calendar year beginning with the year 2005, submit an annual report to the board. The report shall include, for all recycled coatings, the total number of gallons distributed during the preceding year, and shall describe the method used by the manufacturer to calculate distribution.

G. Each manufacturer of bituminous roof coatings or bituminous roof primers shall, on or before April 1 of each calendar year beginning with the year 2005, submit an annual report to the board. The report shall specify the number of gallons of bituminous roof coatings or bituminous roof primers sold during the preceding calendar year, and shall describe the method used by the manufacturer to calculate sales.

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