

**REGULATION 8
ORGANIC COMPOUNDS
RULE 45
MOTOR VEHICLE AND MOBILE EQUIPMENT COATING OPERATIONS**

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**REGULATION 8
ORGANIC COMPOUNDS
RULE 45
MOTOR VEHICLE AND MOBILE EQUIPMENT COATING OPERATIONS**

(Adopted June 7, 1989)

8-45-100 GENERAL

- 8-45-101 Description:** The purpose of this Rule is to limit the emission of volatile organic compounds from the finishing or refinishing of motor vehicles, mobile equipment and their parts and components.
- 8-45-110 Exemption, Original Equipment Manufacturer:** The provisions of this Rule shall not apply to Original Equipment Manufacturer (OEM) coatings applied at manufacturing or assembly plants which are subject to Regulation 8, Rule 13.
- 8-45-111 Exemption, Touch-up:** The provisions of this Rule shall not apply to touch-up operations.
- 8-45-112 Exemption, Graphic Design Applications:** The provisions of this Rule shall not apply to graphic design applications.
- 8-45-113 Exemption, Military Vehicles and Ground Support Equipment:** The provisions of this Rule shall not apply to the coating of military vehicles and ground support equipment which is subject to the provisions of Regulation 8, Rule 19. Military vehicles include tanks and armored personnel carriers but do not include passenger vehicles. (Amended November 2, 1994)
- 8-45-114 Exemption, Radiators and Engine Components:** The provisions of this Rule shall not apply to the coating of radiators and engine components which is subject to the provisions of Regulation 8, Rule 19. (Amended November 2, 1994)
- 8-45-115 Exemption, Aerosol Paint Products:** The provisions of this Rule shall not apply to the application of aerosol paint products which is subject to the provisions of Regulation 8, Rule 49. (Adopted June 20, 1990)
- 8-45-116 Limited Exemption, Transfer Efficiency:** The provisions of Section 8-45-303 shall not apply to the application of high viscosity or thixotropic coatings with application equipment that is supplied with and is an integral part of the coating container or to the application of corrosion protective coatings to enclosed interior spaces. (Adopted November 2, 1994)

8-45-200 DEFINITIONS

- 8-45-201 Antiglare/Safety Coating:** A coating which minimizes light reflection for safety purposes. (Amended November 2, 1994)
- 8-45-202 Deleted November 2, 1994**
- 8-45-203 Camouflage Coating:** A coating applied on motor vehicles to conceal such vehicles from detection.
- 8-45-204 Catalyst:** A substance whose presence enhances the reaction between chemical compounds.
- 8-45-205 Color Match:** The ability of a repair coating to blend into an existing coating so that color difference is not visible.
- 8-45-206 Electrostatic Application:** The application of charged atomized paint droplets which are deposited by electrostatic attraction.
- 8-45-207 Deleted November 2, 1994**
- 8-45-208 Final Stage Manufacture:** Where an incomplete vehicle chassis is delivered to a manufacturer for installation and paint of a truck body and/or components to form a completed vehicle.
- 8-45-209 Graphic Design Application:** The application of logos, letters, numbers and graphics to a painted surface, with or without the use of a template.
- 8-45-210 Ground Support:** Vehicles used in support of aircraft activities at airports.

- 8-45-211 Group I Vehicles:** Passenger cars, large/heavy duty truck cabs and chassis, light- and medium-duty trucks and vans, and motorcycles.
- 8-45-212 Group II Vehicles and Equipment:** Public transit buses and mobile equipment.
- 8-45-213 High-Volume, Low-Pressure (HVLP) Spray:** Equipment used to apply coatings by means of a gun which is designed to be operated and which is operated between 0.1 and 10 psig air atomizing pressure measured dynamically at the center of the air cap and at the air horns. (Amended October 6, 1993; November 2, 1994)
- 8-45-214 Large/Heavy Duty Trucks:** Any truck having a manufacturer's gross vehicle weight rating of over 10,000 pounds.
- 8-45-215 Light and Medium-Duty Trucks and Vans:** Any truck or van having a manufacturer's gross vehicle weight rating of 10,000 pounds or less.
- 8-45-216 Metallic/Iridescent Topcoat:** Any coating which contains more than 5 g/l (.042 lb/gal) of metal or iridescent particles, as identified on a technical or material safety data sheet, as applied, where such particles are visible in the dried film.
- 8-45-217 Mobile Equipment:** Any equipment which may be drawn or is capable of being driven on rails or on a roadway, including, but not limited to, trains, railcars, truck bodies, truck trailers, camper shells, mobile cranes, bulldozers, street cleaners, golf carts and implements of husbandry. (Amended November 2, 1994)
- 8-45-218 Precoat:** Any coating which is applied to bare metal primarily to deactivate the metal surface prior to application of a subsequent primer surfacer. Effective April 1, 1995, a precoat shall be a coating that dries by oxidation or chemical polymerization. (Amended November 2, 1994; January 6, 1999)
- 8-45-219 Pretreatment Wash Primer:** Any coating which contains a minimum of 0.5% acid by weight, is necessary to provide surface etching and is applied directly to bare metal surfaces to provide corrosion resistance and adhesion.
- 8-45-220 Primer:** Any coating applied prior to the application of a topcoat for the purpose of corrosion resistance and adhesion of the topcoat (Amended November 2, 1994; January 6, 1999)
- 8-45-221 Primer Sealer:** Any coating applied for the purpose of sealing the underlying metal or coating system prior to the application of a topcoat. (Amended November 2, 1994)
- 8-45-222 Primer Surfacer:** Any coating applied prior to the application of a topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.
- 8-45-223 Reducer:** The solvent used to thin enamel.
- 8-45-224 Refinishing:** Any coating of vehicles, their parts and components, or mobile equipment, including partial body collision repairs, for the purpose of protection or beautification and which is subsequent to the original coating applied at an Original Equipment Manufacturing (OEM) plant coating assembly line.
- 8-45-225 Specialty Coatings:** Unique coatings and compliant coatings with additives which are necessary due to unusual job performance requirements. Said coatings include, but are not limited to, adhesion promoters, uniform finish blenders, elastomeric materials, gloss flatteners, bright metal trim repair, and anti-glare/safety coatings. (Amended November 2, 1994)
- 8-45-226 Deleted November 2, 1994**

8-45-227 Multi-State Topcoat System: A topcoat system composed of either a basecoat / clearcoat, a basecoat/midcoat/clearcoat, or a groundcoat
The VOC content of a basecoat/clearcoat coating system shall be calculated according to the following formula:

$$VOC_{MS} = \frac{VOC_{bc} + 2VOC_{cc}}{3}$$

The VOC content of a 3-Stage coating system shall be calculated according to the following formula:

$$VOC_{MS} = \frac{VOC_{bc} + VOC_{mc} + 2VOC_{cc}}{4}$$

The VOC content of a 4-Stage coating system shall be calculated according to the following formula:

$$VOC_{MS} = \frac{VOC_{gc} + VOC_{bc} + VOC_{mc} + 2VOC_{cc}}{5}$$

Where:

VOC_{MS} is the sum of the VOC content, as applied, and used to determine compliance with the standards in Section 8-45-301.

VOC_{gc} is the VOC content, as applied, of a pigmented groundcoat, basecoat or tinted primer sealer.

VOC_{bc} is the VOC content, as applied, of a pigmented basecoat or translucent midcoat.

VOC_{mc} is the VOC content, as applied, of a translucent midcoat or tinted clearcoat.

$2VOC_{cc}$ is two times the VOC content, as applied, of a transparent clearcoat.

(Amended November 2, 1994)

8-45-228 Topcoat: Any coating applied over a primer, primer system, or an original OEM finish for the purpose of protection or appearance. For the purposes of this Rule, the VOC limits for solid color and metallic/iridescent topcoats are for single stage applications. A multi stage topcoat may be either a solid or metallic/iridescent color, the VOC_{MS} of a multi stage topcoat system will determine compliance with the VOC standards in Section 8-45-301.1 or 301.2. (Amended November 2, 1994)

8-45-229 Touch-up Coating: A coating applied by brush or air brush to repair minor surface damage and imperfections. (Amended June 20, 1990)

8-45-230 Transfer Efficiency: The ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.

8-45-231 Volatile Organic Compound: Any organic compound (excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate) which would be emitted during use, application, curing or drying of a solvent or surface coating.

231.1 For purposes of calculating VOC content of a coating, any water or any of the following compounds:

acetone

parachlorobenzotrifluoride (PCBTF)

cyclic, branched or linear, fully methylated siloxanes

shall not be considered to be part of the coating.

231.2 For the purposes of calculating the VOC content of surface preparation solvent subject to Section 8-45-308.4 or temporary protective coating, any water shall be considered to be part of the product. The following compounds:

acetone

parachlorobenzotrifluoride (PCBTF)

cyclic, branched or linear, completely methylated siloxanes (VMS)

shall not be considered part of the VOC content of the solvent

(Amended Nov. 2, 1994; Dec. 20, 1995; Nov. 6, 1996)

8-45-232 Aerosol Paint Product: A mixture of resins, pigments, liquid solvents and gaseous propellants, packaged in a disposable can for hand-held application.

(Adopted June 20, 1990)

8-45-233 Key System Operating Parameter: An air pollution abatement operating parameter, such as temperature, flow rate or pressure, that ensures operation of the abatement equipment within manufacturer specifications and compliance with the standards in Section 8-45-301. (Adopted June 1, 1994)

8-45-234 Utility Body: A body designed for and mounted on a light or medium duty truck or van. (Adopted November 2, 1994)

8-45-235 Temporary Protective Coating: A coating applied for the purpose of protecting adjacent areas to that being painted from overspray. The temporary protective coating is removed after primer or topcoat application. (Adopted November 2, 1994)

8-45-300 STANDARDS

8-45-301 Limits: Effective on the dates specified, any person who applies coatings to Group I or II vehicles, mobile equipment, their parts and components, shall comply with Subsections 301.1 or 301.2 below:

301.1 Group I Vehicles: A person shall not refinish Group I vehicles, their parts and components, using any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter (or pounds per gallon) of coating applied, excluding water and exempt solvents, unless emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an abatement device efficiency of at least 85% and which meets the requirements of Regulation 2, Rule 1:

	April 1, 1995 VOC	July 1, 1999 VOC
Pretreatment Wash Primer	780 g/l (6.5 lbs/gal)	
Precoat	600 g/l (5.0 lbs/gal)	580 g/l (4.8 lb/gal)
Primer/Primer Surfacer	250 g/l (2.1 lbs/gal)	
Primer Sealer	420 g/l (3.5 lbs/gal)	
Solid Color Topcoat	420 g/l (3.5 lbs/gal)	
Metallic/Iridescent Topcoat	520 g/l (4.3 lbs/gal)	
Multi -Stage Topcoat System	540 g/l (4.5 lbs/gal)	

301.2 Group II Vehicles and Mobile Equipment: A person shall not finish or refinish Group II vehicles and equipment or their parts and components using any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter (or pounds per gallon) of coating applied, excluding water and exempt solvents, unless emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an abatement device efficiency of at least 85% and which meets the requirements of Regulation 2, Rule 1:

	April 1, 1995 VOC	July 1, 1999 VOC
Pretreatment Wash Primer	780 g/l (6.5 lbs/gal)	
Precoat	600 g/l (5.0 lbs/gal)	580 g/l (4.8 lb/gal)
Primer/Primer Surfacer	250 g/l (2.1 lbs/gal)	
Primer Sealer	340 g/l (2.8 lbs/gal)	
Topcoat	420 g/l (3.5 lbs/gal)	
Metallic/Iridescent Topcoat	420 g/l (3.5 lbs/gal)	
Camouflage	420 g/l (3.5 lbs/gal)	

(Amended Oct. 6, 1993; June 1, 1994; Nov. 2, 1994; Jan. 6, 1999)

8-45-302 Deleted October 6, 1993

8-45-303 Transfer Efficiency: A person shall not apply any coating to any Group I or II vehicles or mobile equipment or their parts and components unless one of the following methods is used:

303.1 Electrostatic application equipment, operated in accordance with the manufacturer's recommendations;

303.2 High-Volume, Low-Pressure (HVLP) spray equipment, operated in accordance with the manufacturer's recommendations; or

303.3 Any other coating application which achieves a transfer efficiency equivalent to the application methods listed in subsection 303.1 or 303.2. Prior written approval from the APCO shall be obtained for each equivalent method used.

(Amended October 6, 1993; November 2, 1994)

8-45-304 Prohibition of Specification: No person shall solicit or require for use or specify the application of a coating on a Group I or II vehicle, mobile equipment, or part or component thereof if such use or application results in a violation of the provisions of this Rule. The prohibition of this Section shall apply to all written or oral contracts under the terms of which any coating which is subject to the provisions of this Rule is to be applied to any motor vehicle, mobile equipment, or part or component at any physical location within the District.

- 8-45-305 Prohibition of Sale:** A person shall not offer for sale, sell within the District, or ship into the District, any coating if such product is prohibited by any of the provisions of this Rule. The prohibition of this Section shall apply to the sale of any coating which will be applied at any physical location within the District.
(Amended November 2, 1994)
- 8-45-306 Compliance Statement Requirement:** The manufacturer of coatings subject to this Rule shall include a designation of VOC (as defined in Section 8-45-231) as supplied, including coating components, expressed in grams per liter or pounds per gallon, excluding water and exempt solvents, on data sheets.
- 8-45-307 Deleted November 2, 1994**
- 8-45-308 Surface Preparation and Solvent Loss Minimization:** Any person using organic solvent for surface preparation and cleanup or mixing, using or disposing of coating or stripper containing organic solvent:
- 308.1 Shall close containers used for the storage or disposal of cloth or paper used for solvent surface preparation and cleanup.
 - 308.2 Shall close containers of fresh or spent solvent, coating, catalyst, thinner, reducer, or solvent when not in use.
 - 308.3 Shall not use organic compounds for the cleanup of spray equipment, including paint lines, unless equipment for collecting the organic compounds and minimizing their evaporation to the atmosphere is used.
 - 308.4 Effective April 1, 1995, the VOC content of surface preparation solvent shall not exceed 72 g/l (0.6 lb/gal). This limit shall not apply to surface preparation solvent applied from a hand held spray bottle. The VOC content of surface preparation solvent used to clean plastic parts shall not exceed 780 g/l (6.5 lbs/gal).
(Amended November 2, 1994).
- 8-45-309 Deleted October 6, 1993**
- 8-45-310 Deleted October 6, 1993**
- 8-45-311 Small Production/Utility Bodies:** A person shall not coat utility bodies where the coating must match that of the vehicles upon which they will be mounted using any coating with a VOC content in excess of the standards set forth in Subsection 301.1, provided production is less than 20 vehicles per day.
- 8-45-312 Specialty Coatings:** A person shall not use any specialty coating with a VOC content in excess of 840 g/l (7.0 lbs/gal), as applied, excluding water and exempt solvents. Use of all specialty coatings except antiglare/safety coatings shall not exceed 5.0 percent of all coatings applied, on a monthly basis.
(Amended November 2, 1994)
- 8-45-313 Temporary Protective Coating:** A person shall not use any temporary protective coating with a VOC content in excess of 60 g/l (0.5 lbs/gal), excluding water.
(Adopted November 2, 1994)
- 8-45-314 Precoat Limitation:** A person shall not use precoat in excess of 25%, by volume, of the amount of primer surfacer used.
(Adopted November 2, 1994; Amended January 6, 1999)
- 8-45-315 HVLP Marking:** Effective April 1, 1995, a person shall not sell or offer for sale for use within the District any HVLP gun without a permanent marking denoting the maximum inlet air pressure in psig at which the gun will operate within the parameters specified in Section 8-45-213.
(Adopted November 2, 1994)
- 8-45-316 Filtration:** Effective April 1, 1995, a person shall not apply single or multi-stage topcoats subject to Section 8-45-301 to any vehicle except when exhausted through a properly maintained particulate filtration media. The filter system shall meet the requirements of Regulation 2, Rule 1.
(Adopted November 2, 1994)
- 8-45-400 ADMINISTRATIVE REQUIREMENTS**
- 8-45-401 Deleted November 2, 1994**

8-45-500 MONITORING AND RECORDS

8-45-501 **Coating Records:** Any person subject to Sections 8-45-301.1 and 301.2 shall:

501.1 Maintain and have available during an inspection a current list of coatings in use that provides all of the coating data necessary to evaluate compliance, including the following information, as applicable:

- a. coating, catalyst and reducer used
- b. mix ratio of components used
- c. VOC content of coating as applied

501.2 Record, on a weekly basis, the following information:

- a. coating and mix ratio of components in the coating used
- b. quantity of each coating applied

501.3 Record, on a daily basis, the following information:

- a. quantity and mix ratio of each specialty coating applied

501.4 Record on a monthly basis the type and amount of solvent used for cleanup and surface preparation.

501.5 Records shall be retained and available for inspection by the APCO for the previous 24-month period. (Amended November 2, 1994)

8-45-502 **Air Pollution Abatement Equipment, Recordkeeping Requirements:** Any person operating air pollution abatement equipment to comply with Sections 8-45-301.1 and 301.2, in addition to Section 8-45-501 shall record on a daily basis:

- a. coating and mix ratio of components in the coating used
- b. key system operating parameters.

(Adopted June 1, 1994; Amended November 2, 1994)

8-45-503 **Precoat Limitation Records:** Any person using precoat shall retain purchase invoices to verify compliance with Section 8-45-314. Such invoices shall be available for inspection upon request. (Adopted November 2, 1994)

8-45-504 **Sales Records:** Any person within the District selling coatings subject to this Rule shall make receipts of customer purchases available for inspection upon request. Cash sales shall be recorded including the customer's name and business address.

(Adopted November 2, 1994)

8-45-600 MANUAL OF PROCEDURES

8-45-601 **Analysis of Samples:** Samples of volatile organic compounds as specified in Sections 8-45-301.1 or 301.2 shall be analyzed as prescribed in the Manual of Procedures (MOP), Volume III, Method 21 or 22. Samples of volatile organic compounds as specified in Section 8-45-308.4 shall be analyzed as prescribed in the MOP, Volume III, Method 31. Samples containing parachlorobenzotrifluoride shall be analyzed as prescribed in the MOP, Vol. III, Method 41. Samples containing volatile methylsiloxanes shall be analyzed as prescribed in the MOP, Vol. III, Method 43.

(Amended November 2, 1994; November 6, 1996)

8-45-602 **Determination of Emissions:** Emissions of volatile organic compounds as specified in Sections 8-45-301.1 or 301.2 shall be measured as prescribed by any of the following methods: 1) BAAQMD Manual of Procedures, Volume IV, ST 7, 2) EPA Method 25 or 25A. When either EPA Method 25 or 25A is used, control device equivalency shall be determined as prescribed in 55 FR 26865 (June 29, 1990). For the purpose of determining abatement device efficiency, any acetone, PCBTF or VMS shall be included as a volatile organic compound. A source shall be considered in violation if the VOC emissions measured by any of the referenced test methods exceed the standards of this rule. (Amended June 1, 1994; November 6, 1996)

8-45-603 **Deleted October 6, 1993**

8-45-604 **Determination of Acid Content:** Measurement of acid content as specified in Section 8-45-219 shall be determined in accordance with ASTM Test Method D-1613-85. (Adopted October 6, 1993)