

10 CSR 10-2.230 Control of Emissions from Industrial Surface Coating Operations

(1) Applicability.

(A) This rule applies only in Clay, Jackson, and Platte Counties.

(B) This rule applies to any installation with an uncontrolled potential to emit greater than 6.8 kg/day or 2.7 tons per year of volatile organic compounds (VOC) from industrial surface coating operations covered under this rule. The uncontrolled potential to emit is the potential emissions (as defined) plus the VOC removed by emission control devices.

(C) This rule is not applicable to the following:

1. Exterior refinishing of airplanes;
2. Automobile refinishing;
3. Customizing top coating of automobiles and trucks, if production is less than thirty-five (35) vehicles per day;
4. Exterior of marine vessels;
5. Surface coating that is part of janitorial, building, and installation maintenance operations;
6. Research and development, performance testing, and quality control of coatings and surface coated products;
7. Aerosol coating products subject to 40 CFR 59 subpart C or E;
8. Field application of architectural coatings to buildings, building components, and stationary structures;
9. Powder coatings;
10. Surface coating and cleaning of aerospace vehicles or components at an aerospace manufacture or rework facility that
 - A. Is subject to the requirements and/or aerospace specific exemptions of 10 CSR 10-2.205; or
 - B. Is not subject to 10 CSR 10-2.205 because the installation's potential to emit VOCs from aerospace surface coating and cleaning is twenty-five(25) tons per year or less;
11. Application and storage of coatings subject to 49 CFR 59 subpart D;
12. Printing operations subject to the requirements of 10 CSR 10-2.290 or 10 CSR 10-2.340;
13. Surface coating and cleaning of articles used for internal company operations including, but not limited to, work stands; scaffolding; jigs; tooling; dollies; tow bars; aircraft ground support equipment; portable equipment used for maintenance, testing, fabrication, or repair;

toolboxes; storage bins; shelving; and other manufacturing or warehouse support items;

14. Adhesives and sealants that contain less than 0.17 pounds of VOC per gallon of coating (less water and exempt compounds) as applied;

15. Cyanoacrylate adhesives;

16. Adhesives, sealants, adhesive primers, and sealant primers that are supplied by the manufacturer or supplier in containers with a net volume of sixteen (16) fluid ounces or less, or a net weight of one (1) pound or less, except plastic cement welding adhesives and contact adhesives;

17. Contact adhesives that are supplied by the manufacturer or supplier in containers with a net volume of one (1) gallon or less;

18. Adhesives, sealants, adhesive primers, sealant primers, surface preparation, and cleanup solvents used in the following operations:

A. Tire repair operations, provided the adhesive is labeled for tire repair only;

B. Assembly, repair, and manufacture of aerospace or undersea-based weapon systems components;

C. Plastic solvent welding operations used in the manufacture of medical devices or in the manufacture of medical equipment; and

D. Plaque laminating operations in which adhesives are used to bond clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992; and

19. Military specification coatings that meet the following criteria:

A. The coating is applied only to military equipment used for national defense;

B. The coating performance is critical to the successful operation of the military equipment; and

C. The coating is mandated in a specification or contract and a substitution of coatings is not allowed.

(2) Definitions.

(A) Adhesive—Any chemical substance that is applied for the purpose of bonding two (2) surfaces together other than by mechanical means.

(B) Adhesive primer—A product intended by the manufacturer for application to a substrate, prior to the application of an adhesive, to provide a bonding surface.

- (C) Air-dried coating—The coatings dried by the use of air or forced warm air at temperatures up to ninety degrees Celsius (90 °C) (one hundred ninety-four degrees Fahrenheit (194 °F)).
- (D) Architectural coating—A coating recommended for field application to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs. This definition excludes adhesives and coatings recommended by the manufacturer or importer solely for shop applications or solely for application to nonstationary structures, such as airplanes, ships, boats, and railcars.
- (E) Automobile—A four (4)-wheel passenger motor vehicle or derivative capable of seating no more than twelve (12) passengers.
- (F) Clear coat—A coating which lacks color and opacity or is transparent and uses the undercoat as a reflectant base or undertone color. This term also includes corrosion preventative coatings used for the interior of drums or pails.
- (G) Coating applicator—An apparatus used to apply a surface coating.
- (H) Coating line—one (1) or more apparatus or operations which include a coating applicator, flash-off area, and oven where a surface coating is applied, dried, or cured, or a combination of these.
- (I) Contact adhesive—A contact adhesive does not include rubber cements that are primarily intended for use on paper substrates. Contact adhesive also does not include vulcanizing fluids that are designed and labeled for tire repair only. A contact adhesive is an adhesive that—
1. Is designed for application to both surfaces to be bonded together;
 2. Is allowed to dry before the two (2) surfaces are placed in contact with each other;
 3. Forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other; and
 4. Does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces.
- (J) Cyanoacrylate adhesive—An adhesive with a cyanoacrylate content of at least ninety-five percent (95%) by weight.
- (K) Drum—Any cylindrical container of thirteen to one hundred ten (13-110)-gallon capacity.

(L) End seal compound—The gasket forming coating used to attach the end pieces of a can during manufacturing or after filling with contents.

(M) Extreme performance coating—A coating used on a metal or plastic surface where the coated surface is, in its intended use, subject to the following:

1. Chronic exposure to corrosive, caustic, or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions;
2. Repeated exposure to temperatures in excess of two hundred fifty degrees Fahrenheit (250 °F); or
3. Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents.

(N) Fabric coating—A coating applied to a textile substrate by dipping or by means of a knife or roll.

(O) Final repair—The final coatings applied to correct topcoat imperfections after the complete assembly of the automobile.

(P) Flash-off area—The space between the application area and the oven.

(Q) Industrial surface coating operation—The surface coating of manufactured items intended for distribution in commerce to persons other than the person or legal entity performing the surface coating.

(R) Interior body spray—The surface coating for the interior and ends of a two(2)-piece formed can or the surface coating of the side of the rectangular material to be used as the interior and ends of a three (3)-piece can.

(S) Light-duty truck—Any motor vehicle rated at eight thousand five hundred pounds (8,500 lbs.) gross vehicle weight or less or a derivation of this vehicle which is designed primarily for the purpose of transportation of property.

(T) Marine vessel—A craft capable of being used as a means of transportation on water, except amphibious vehicles.

(U) Pail—Any nominal cylindrical container of one to twelve (1-12)-gallon capacity.

(V) Primer—The first surface coating applied to the surface.

(W) Primer-surfacer—The surface coatings applied over the primer and beneath the topcoat.

(X) Sheet basecoat—The roll coated primary interior surface coating applied to surfaces for the basic protection of buffering filling material from the metal can surface.

(Y) Topcoat—The surface coating applied for the purpose of establishing the color of protective surface, or both, including ground coat and paint sealer materials, base coat, and clear coat.

(Z) Transfer Efficiency (TE)—Ratio of the amount of coating solids transferred onto a product to the total of coating solids used. In any surface coating operation, TE is the ratio of solids in a coating that adhere on a target surface to the total solids used in the process for coating the target surface.

(AA) Vinyl coating—The application of a decorative or protective topcoat, or printing or vinyl-coated fabric or vinyl sheet.

(BB) Definitions of certain general terms specified in this rule may be found in 10 CSR 10-6.020.

(3) General Provisions. No person shall emit to the atmosphere any VOC from any industrial surface coating operation in excess of the amount allowed in subsections (3) (A) and (3) (B) of this rule. The following emission limits and compliance dates apply to all application areas, flash-off areas, and ovens used in any affected industrial surface coating operation.

(A) Table A: VOC Emission Limits Based on Solids Applied

Surface Coating Operation	Dates of Emission Limit lbs. VOC/gal. solids applied	Compliance (See Note 1)
Auto/light-duty truck		
Ford Motor Company		
Primer Surfacer	15.1	12/24/87
Topcoat (passenger)	15.1	12/31/88
Topcoat (truck)		
(See Note 2)	15.1	12/31/88

(B) Table B: VOC Emission Limits Based on Weight of VOC per Gallon of Coating (minus water and non-VOC organic compounds)

Emission Limit lbs. VOC/gal. coating	Dates of
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(minus water & non-VOC Compliance
Surface Coating Operation organic compounds) (See Note 1)

Large Appliance		
Topcoat	2.8	12/31/81
Final Repair	6.5	12/31/81
Magnet Wire	1.7	12/31/81
Metal Furniture	3.0	12/31/81
Auto/light-duty truck		
Ford Motor Company		
Electrocoat prime	1.2	12/31/82
Topcoat (truck)	3.6	12/31/85
Topcoat (passenger)	3.6	12/31/86
Final Repair	4.8	12/31/85
Miscellaneous Metal Parts		
Extreme Performance Coating and air dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
Paper	2.9	12/31/81
Vinyl Coating	3.8	12/31/81
Fabric Coating	2.9	12/31/81
Coil	2.6	12/31/81
Can		
2 piece exterior sheet basecoat	4.0	12/31/82
	2.8	12/31/85
2 and 3 piece interior body spray	4.2	12/31/82
2 piece end exterior	4.2	12/31/82
3 piece side seam	5.5	12/31/82
end seal compound	4.2	12/31/82
	3.7	12/31/85
Railroad Cars, Farm Implements, Machinery, and Heavy Duty Trucks		
	3.5	12/31/82
Other Metal Parts		
Clear Coat	4.3	12/31/82
extreme performance and air dried Coatings	3.5	12/31/82
All other Coatings	3.0	12/31/82

Note 1. The emission limit associated with the latest compliance date for each surface coating process supersedes interim emission limits associated with earlier compliance dates.

Note 2. A formal commitment submitted to and received by the director prior to 12/31/88 to construct or modify the truck topcoat surface coating operation no later than 12/31/90 to meet the provisions of 10 CSR 10-6.070 or 40 CFR 60 subpart MM, whichever is

more stringent, may be substituted for this emission limitation. The emission limit specified by the rules referenced in this note is 12.3 lbs. VOC per gallon of solids applied.

(4) Reporting and Record keeping

(A) The owner or operator of a coating line shall keep records detailing specific VOC sources, as necessary to determine compliance. These may include:

1. The type and the quantity of coatings used daily;
2. The coating manufacturer's formulation data for each coating on forms provided or approved by the director;
3. The type and quantity of solvents for coating, thinning, purging and equipment cleaning used daily;
4. All test results to determine capture and control efficiencies, transfer efficiencies, and coating makeup;
5. The type and quantity of waste solvents reclaimed or discarded daily;
6. The quantity of pieces or materials coated daily; and
7. Any additional information pertinent to determine compliance.

(B) Records such as daily production rates may be substituted for actual daily coating use measurement provided the owner submits a demonstration approvable by the director that such records are adequate for the purposes of this rule. This will apply for all surface coating industries until the U.S. Environmental Protection Agency (EPA) issues national daily emissions recordkeeping protocols for specific industrial classifications.

(C) Owners or operators shall retain records for a minimum of two (2) years and make the records available to the director upon request.

(5) Test Methods. Use the methods in subsections (5) (A)-(C) as applicable and appropriate to determine compliance with section (3) requirements.

(A) To calculate the daily volume-weighted emission performance for automobile and light-duty truck primer-surfacer and topcoat operations for subsection (3) (A), use the procedures in the EPA document, *Protocol for Determining the Daily Volatile Organic Compound Emission Rate for Automobile and Light-Duty Truck Topcoat Operations* as incorporated by reference in 10 CSR 10-6.030(20).

(B) For subsection (3) (B)-

1. Compliance with emission limits may be demonstrated EPA Method 24 as specified in 10 CSR 10-6.030(22) using the one

(1)-hour bake. Emission performance is based on the daily volume-weighted average of all coatings used in each surface coating operation as delivered to the coating applicator(s) on a coating line. The daily volume-weighted average (DAVG_{VW}) is calculated by the following formula:

$$DAVG_{VW} = \frac{\sum_{i=1}^n (A_i \times B_i)}{C}$$

Where: A = daily gal. each coating used (minus water and exempt solvents) in an industrial surface coating operation.

B = lbs. VOC/gal. coating (minus water and exempt solvents).

C = total daily gal. coatings used (minus water and exempt solvents) in a surface coating operation.

n = number of all coatings used in an industrial surface coating operation; or

2. Compliance with the emission limits in subsection (3) (B) may be demonstrated on a pounds of VOC per gallon of coating solids basis. The demonstration is made by first converting the emission limit in subsection (3) (B) to pounds of VOC per gallon of coating solids as shown in the following three (3) steps:

1)

lbs. VOC per gallon of coating minus water and exempt solvents	(Emission Limit from (3) (B))	= volume fraction of VOC
7.36 lbs. per gallon	(average density of solvents used to originally establish the emission limit.)	

2)

1-Volume fraction of VOC = Volume fraction of solids

3)

$$\begin{array}{rcl}
 \text{lbs. VOC per gallon of} & & \\
 \text{coating minus water} & \text{(Emission Limit} & \\
 \text{and exempt solvents} & \text{from (4) (B))} & \text{lbs. VOC} \\
 \hline
 & \text{Volume fraction} & \text{=} \text{ } \hline
 & \text{of solids} & \text{gallon of} \\
 & & \text{coating solids}
 \end{array}$$

This value is the new compliance figure. The VOC per gallon of coating solids for each coating used is then determined using the method referenced in 10 CSR 10-6.030(14)(C) using the one-hour bake. The composite daily volume-weighted average of pounds of VOC per gallon of coating solids as tested for in the actual coatings used is compared to the new compliance figure. Source operations on a coating line using coatings with a composite actual daily volume-weighted average value less than or equal to the new compliance figure are in compliance with this rule.

(C) As an alternative to the methods specified in subsections (5) (A) and (B), compliance with the emission limits specified in subsections (3) (A) and (B) may be demonstrated by the implementation of an emission reduction equivalency compliance plan, which utilizes a daily weighted average of emissions from a single or combination of source operations provided that—

1. All source operations involved in the plan are subject to the emission limits of this rule;
2. All source operations are part of the same installation;
3. The total actual VOC emissions from each twenty-four (24)-hour period do not exceed the sum of the allowable emissions determined from section (3) for each source operation for the same period;
4. Equivalent emission reductions are accomplished in the time intervals allowed in subsection (5) (B);
5. After December 24, 1987, testing of raw materials, emissions, equipment, or a combination of these, shall be performed prior to initiation of an alternate compliance plan to verify any equivalent emission reductions claimed. Director approval prior to review is necessary for all test methods and procedures to be acceptable for use in the equivalency determination. Failure to gain test method and procedure approval of the director will invalidate the equivalency claim; and
6. The overall plan is approved by the director.

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EPA Rulemakings

CFR: 40 C.F.R. 52.1320(c)
FRM: 85 FR 57701 (9/16/20)
PRM: 85 FR 37411 (6/22/20)
State Submission: 3/20/2019
State Final: 10 C.S.R. 10-2 (2/28/19)
APDB File: MO-428
Description: This revision removes unnecessary restrictive words, adds exemptions, adds definitions, corrects test method references, removes obsolete requirements specific to sources that have closed, changes sections to the standard rule format, and makes minor clarifications and grammatical changes. The new exemptions are consistent with 10 CSR 10-5.330 Industrial Surface Coating Operations.

CFR: 40 C.F.R. 52.1320(c)(79)(i)(B)
FRM: 59 FR 43480 (8/24/94), Correction notice 60 FR 16806 (4/3/95)
PRM: 57 FR 32191 (7/21/92)
State Submission: 11/20/91
State Proposal: 16 MR 989 (7/1/91)
State Final: 10 C.S.R. 10-2 (11/29/91)
APDB File: MO-100
Description: This revision updates this rule to include the correct reference method specified in 10 C.S.R. 10-6.030.

CFR: 40 C.F.R. 52.1320(c)(70)(i)(A)
FRM: 54 FR 46232 (11/2/89) and 55 FR 7712 (3/5/90)
PRM: 54 FR 20613 (5/12/89)
State Submission: 12/18/87 and 12/19/88
State Proposal: 12 MR 991 (7/13/87), 13 MR 1268 (8/15/88)
State Final: 12 MR 1948 (12/14/87), 13 MR 1818 (11/14/88)
APDB File: MO-49
Description: The EPA approved changes to the regulation which: (1) deleted the 100 TPY applicability cutoff, (2) specified recordkeeping and test method requirements, (3) provided procedures for making equivalency calculations, and (4) enacted emission limit and compliance date changes applicable to Ford-Claycomo. The EPA approved the rule with the understanding that any alternative compliance plans would have to be submitted and approved by the EPA as SIP revisions [40 C.F.R. 52.1323(c)].

CFR: 40 C.F.R. 52.1320(c)(25)(i)
FRM: 46 FR 20172 (4/3/81)
PRM: 45 FR 84099 (12/22/80)
State Submission: 9/2/80
State Proposal: 4 MR 1144 (11/1/79), 5 MR 367 (4/1/80)
State Final: 5 MR 295 (3/3/80), 5 MR 1123 (9/2/80)
APDB File: MO-12
Description: The EPA approved revisions to the regulation which added emission limitations for miscellaneous metal parts, railroad cars, farm implements and machinery, and heavy-duty trucks. The EPA raised the exemption level to 100 TPY.

CFR: 40 C.F.R. 52.1320(c)(16)(xi)
FRM: 45 FR 24140 (4/9/80) and 45 FR 46806 (7/11/80) (correction)
PRM: 44 FR 61384 (10/25/79)
State Submission: 6/29/79
State Proposal: 4 MR 87 (2/1/79)
State Final: 4 MR 600 (7/2/79)
APDB File: MO-01
Description: The EPA approved a new regulation which established surface coating emission limits for automobiles and light-duty trucks, large appliances, magnetic wire, metal furniture, paper, vinyl, fabric, coil, and can manufacturing. Sources emitting less than 50 TPY were exempted. Provisions for alternative compliance plans were approved.

Difference Between the State and EPA-Approved Regulation

None.