

R307. Environmental Quality, Air Quality.**R307-343. Ozone Nonattainment and Maintenance Areas: Emissions Standards for Wood Furniture Manufacturing Operations.****R307-343-1. Purpose.**

The purpose of R307-343 is to limit volatile organic compound emissions from wood furniture manufacturing sources located in any ozone nonattainment or maintenance area.

R307-343-2. Applicability.

Provisions of R307-343 apply to each wood furniture manufacturing source that is not an incidental wood furniture manufacturer, has the potential to emit 25 tons or more per year of volatile organic compounds and is located in any ozone nonattainment or maintenance area.

R307-343-3. Definitions.

The following additional definitions apply to R307-343:

"Affected Source" means a wood furniture manufacturing source that meets the criteria in R307-343-2.

"Alternate Method" means any method of sampling and analyzing for an air pollutant that is not a reference or equivalent method but that has been demonstrated to the executive secretary's satisfaction to, in specific cases, produce results adequate for a determination of compliance.

"As Applied" means the volatile organic compound and solids content of the finishing material that is actually used for coating the substrate. It includes the contribution of materials used for in-house dilution of the finishing material.

"Basecoat" means a coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque finishing materials, and is usually topcoated for protection.

"Capture Device" means a hood, enclosed room, floor sweep, or other means of collecting solvent emissions or other pollutants into a duct so that the pollutant can be directed to a pollution control device such as an incinerator or carbon adsorber.

"Capture Efficiency" means the fraction of all organic vapors generated by a process that is directed to a control device.

"Certified Product Data Sheet (CPDS)" means documentation furnished by a coating supplier or an outside laboratory that provides the volatile organic compound content by percent weight, the solids content by percent weight, and the density of a finishing material, strippable booth coating, or solvent, measured using EPA Method 24 or an equivalent or alternate method, or formulation data if the coating meets the criteria specified in R307-343-7(1). The purpose of the CPDS is to assist the affected source in demonstrating compliance with the emission limitations presented in Subsection R307-343-4.

"Cleaning Operations" means operations in which organic solvent is used to remove coating materials from equipment used in wood furniture manufacturing operations.

"Coating" means a protective, decorative, or functional material applied in a thin layer to a surface. Such materials may

1 include paints, topcoats, varnishes, sealers, stains, washcoats,
2 basecoats, inks, and temporary protective coatings.

3 "Compliant Coating" means a finishing material or strippable
4 booth coating that meets the emission limits specified in R307-
5 343-4(1).

6 "Continuous Coater" means a finishing system that
7 continuously applies finishing materials onto furniture parts
8 moving along a conveyor system. Finishing materials that are not
9 transferred to the part are recycled to the finishing material
10 reservoir. Several types of application methods can be used with
11 a continuous coater including spraying, curtain coating, roll
12 coating, dip coating, and flow coating.

13 "Continuous Compliance" means that the affected source meets
14 the emission limitations and other requirements of R307-343 at all
15 times and fulfills all monitoring and recordkeeping provisions of
16 R307-343 in order to demonstrate compliance.

17 "Control Device" means any equipment that reduces the
18 quantity of a pollutant that is emitted to the air. The device
19 may destroy or secure the pollutant for subsequent recovery.
20 Control devices include, but are not limited to, incinerators,
21 carbon adsorbers, and condensers.

22 "Control Device Efficiency" means the ratio of the pollution
23 released by a control device and the pollution introduced to the
24 control device, expressed as a fraction.

25 "Control System" means the combination of capture and control
26 devices used to reduce emissions to the atmosphere.

27 "Conventional Air Spray" means a spray coating method in
28 which the coating is atomized by mixing it with compressed air at
29 an air pressure greater than 10 pounds per square inch (gauge) at
30 the point of atomization. Airless, air assisted airless spray
31 technologies, and electrostatic spray technology are not
32 considered conventional air spray.

33 "Day" means a period of 24 consecutive hours beginning at
34 midnight local time, or beginning at a time consistent with a
35 source's operating schedule.

36 "Emission" means the direct or indirect release or discharge
37 of volatile organic compound into the ambient air.

38 "Equipment Leak" means emissions of volatile organic
39 compounds from pumps, valves, flanges, or other equipment used to
40 transfer or apply finishing materials or organic solvents.

41 "Equivalent Method" means any method of sampling and
42 analyzing for an air pollutant that has been demonstrated to the
43 executive secretary's satisfaction to have a consistent and
44 quantitatively known relationship to the reference method under
45 specific conditions.

46 "Finishing Application Station" means the part of a finishing
47 operation where the finishing material is applied, such as a spray
48 booth.

49 "Finishing Material" means a coating used in the wood
50 furniture industry, including basecoats, stains, washcoats,
51 sealers, and topcoats.

52 "Finishing Operation" means those activities in which a
53 finishing material is applied to a substrate and is subsequently

1 air-dried, cured in an oven, or cured by radiation.

2 "Incidental Wood Furniture Manufacturer" means a major source
3 as defined in 40 CFR 63.2 that is primarily engaged in the
4 manufacture of products other than wood furniture or wood
5 furniture components and that uses no more than 100 gallons per
6 month of finishing material in the manufacture of wood furniture
7 or wood furniture components.

8 "Incinerator" means an enclosed combustion device that
9 thermally oxidizes volatile organic compounds to carbon monoxide
10 and carbon dioxide. This term does not include devices that burn
11 municipal or hazardous waste material.

12 "Noncompliant Coating" means a finishing material or
13 strippable booth coating that has a volatile organic compound
14 content greater than the emission limitation specified in
15 Subsection R307-343-4(1).

16 "Normally Closed Container" means a container that is closed
17 unless an operator is actively engaged in activities such as
18 emptying or filling the container.

19 "Operating Parameter Value" means a minimum or maximum value
20 established for a control device or process parameter that, if
21 achieved by itself or in combination with one or more other
22 operating parameter values, determines that an owner or operator
23 has complied with an applicable emission limit.

24 "Organic Solvent" means a liquid containing volatile organic
25 compounds that is used for dissolving or dispersing constituents
26 in a coating, adjusting the viscosity of a coating, cleaning, or
27 washoff. When used in a coating, the organic solvent evaporates
28 during drying and does not become a part of the dried film.

29 "Overall Control Efficiency" means the efficiency of a
30 control system, calculated as the product of the capture and
31 control device efficiencies, expressed as a percentage.

32 "Permanent Total Enclosure" means a permanently installed
33 enclosure that completely surrounds a source of emissions such
34 that all emissions are captured and contained for discharge
35 through a control device, and that meets the criteria presented in
36 Subsection R307-343-7(5)(a)(i) through (iv).

37 "Reference Method" means any method of sampling and analyzing
38 for an air pollutant that is published in Appendix A of 40 CFR 60.

39 "Responsible Official" has the same meaning as in R307-415,
40 Operating Permit Requirements.

41 "Sealer" means a finishing material used to seal the pores of
42 a wood substrate before additional coats of finishing material are
43 applied. A washcoat used to optimize aesthetics is not a sealer.

44 "Solids" means the part of the coating that remains after the
45 coating is dried or cured; solids content is determined using data
46 from EPA Method 24, or an alternate or equivalent method approved
47 by the executive secretary.

48 "Solvent" means a liquid used in a coating for dissolving or
49 dispersing constituents in a coating, adjusting the viscosity of a
50 coating, cleaning, or washoff. When used in a coating, it
51 evaporates during drying and does not become a part of the dried
52 film.

53 "Stain" means any color coat having a solids content by

1 weight of no more than 8.0 percent that is applied in single or
2 multiple coats directly to the substrate, including nongrain
3 raising stains, equalizer stains, sap stains, body stains, no-wipe
4 stains, penetrating stains, and toners.

5 "Strippable Booth Coating" means a coating that:

6 (1) is applied to a booth wall to provide a protective film
7 to receive overspray during finishing operations;

8 (2) is subsequently peeled off and disposed; and

9 (3) by achieving (1) and (2), reduces or eliminates the need
10 to use organic solvents to clean booth walls.

11 "Substrate" means the surface onto which coatings are
12 applied, or into which coatings are impregnated.

13 "Temporary Total Enclosure" means an enclosure that meets the
14 requirements of Subsection R307-343-7(5)(a)(i) through (iv) and is
15 not permanent, but is constructed only to measure the capture
16 efficiency of pollutants emitted from a given source.
17 Additionally, any exhaust point from the enclosure shall be at
18 least 4 equivalent duct or hood diameters from each natural draft
19 opening.

20 "Topcoat" means the last film-building finishing material
21 applied in a finishing system. Non-permanent final finishes are
22 not topcoats.

23 "Touch-up and Repair" means the application of finishing
24 materials to cover minor finishing imperfections.

25 "Washcoat" means a transparent special purpose coating having
26 a solids content by weight of 12.0 percent or less that is applied
27 over initial stains to protect and control color and to stiffen
28 the wood fibers in order to aid sanding.

29 "Washoff Operations" means those operations in which organic
30 solvent is used to remove coating from a substrate.

31 "Wood Furniture" means any product made of wood, a wood
32 product such as rattan or wicker, or an engineered wood product
33 such as particleboard that is manufactured under any of the
34 following standard industrial classification codes: 2434, 2511,
35 2512, 2517, 2519, 2521, 2531, 2541, 2599, or 5712.

36 "Wood Furniture Manufacturing Operations" means the
37 finishing, cleaning, and washoff operations associated with the
38 production of wood furniture or wood furniture components.

39 "Working Day" means a day, or any part of a day, in which a
40 source is engaged in manufacturing.

41 42 **R307-343-4. Emission Standards.**

43 (1) Each owner or operator of an affected source subject to
44 R307-343 shall limit volatile organic compound emissions from
45 finishing operations. Methods in (a) through (e) below are
46 accepted.

47 (a) Use topcoats with a volatile organic compound content no
48 greater than 0.8 kilogram per kilogram of solids, as applied; or

49 (b) Use a finishing system of sealers with a volatile
50 organic compound content no greater than 1.9 kilograms per
51 kilogram of solids, as applied, and topcoats with a volatile
52 organic compound content no greater than 1.8 kilograms per
53 kilogram of solids, as applied; or

1 (c) For affected sources using acid-cured alkyd amino vinyl
2 sealers or acid-cured alkyd amino conversion varnish topcoats, use
3 sealers and topcoats based on the following criteria:

4 (i) If the affected source is using acid-cured alkyd amino
5 vinyl sealers and acid-cured alkyd amino conversion varnish
6 topcoats, the sealer shall contain no more than 2.3 kilograms of
7 volatile organic compound per kilogram of solids, as applied, and
8 the topcoat shall contain no more than 2.0 kilograms of volatile
9 organic compound per kilogram of solids, as applied;

10 (ii) If the affected source is using a sealer other than an
11 acid-cured alkyd amino vinyl sealer and acid-cured alkyd amino
12 conversion varnish topcoats, the sealer shall contain no more than
13 1.9 kilograms of volatile organic compound per kilogram of solids,
14 as applied, and the topcoat shall contain no more than 2.0
15 kilograms of volatile organic compound per kilogram of solids, as
16 applied; or

17 (iii) if the affected source is using an acid-cured alkyd
18 amino vinyl sealer and a topcoat other than an acid-cured alkyd
19 amino conversion varnish topcoat, the sealer shall contain no more
20 than 2.3 kilograms of volatile organic compound per kilogram of
21 solids, as applied, and the topcoat shall contain no more than 1.8
22 kilograms of volatile organic compound per kilogram of solids, as
23 applied; or

24 (d) Use a control system that will achieve an equivalent
25 reduction in emissions as the requirements of Subsection R307-343-
26 4(1)(a) or (b), as calculated using the compliance provisions in
27 R307-343-6(2), as appropriate; or

28 (e) Use a combination of the methods presented in (a)
29 through (d) above.

30 (2) Each owner or operator of an affected source subject to
31 R307-343 shall limit volatile organic compound emissions from
32 cleaning operations when using a strippable booth coating. A
33 strippable booth coating shall contain no more than 0.8 kilogram
34 of volatile organic compound per kilogram of solids, as applied.

35 36 **R307-343-5. Work Practice Standards.**

37 (1) Work Practice Implementation Plan. Each owner or
38 operator of an affected source subject to R307-343 shall prepare
39 and maintain a written work practice implementation plan that
40 defines environmentally desirable work practices for each wood
41 furniture manufacturing operation and addresses each of the topics
42 specified in R307-343-5(2) through (10). The owner or operator of
43 the affected source shall comply with each provision of the work
44 practice implementation plan. The written work practice
45 implementation plan shall be available for inspection by the
46 executive secretary, upon request. If the executive secretary
47 determines that the work practice implementation plan does not
48 adequately address each of the topics specified in (2) through
49 (10) below or that the plan does not include sufficient mechanisms
50 for ensuring that the work practice standards are being
51 implemented, the executive secretary may require the affected
52 source to modify the plan.

53 (2) Operator Training.

1 (a) Each owner or operator of an affected source shall train
2 new and existing personnel, including contract workers, who are
3 involved in finishing, gluing, cleaning, or washoff operations,
4 use of manufacturing equipment, or implementation of the
5 requirements of R307-343. All new personnel, those hired after
6 June 2, 1999, shall be trained upon hiring. All existing
7 personnel, those hired before June 2, 1999, shall be trained by
8 December 4, 1999. All personnel shall be given refresher training
9 annually.

10 (b) The affected source shall maintain a copy of the
11 training program with the work practice implementation plan. The
12 training program shall include, at a minimum, the following:

13 (i) A list of all current personnel by name and job
14 description that are required to be trained;

15 (ii) An outline of the subjects to be covered in the initial
16 and refresher training for each position or group of personnel;

17 (iii) Lesson plans for courses to be given at the initial
18 and the annual refresher training that include, at a minimum,
19 appropriate application techniques, appropriate cleaning and
20 washoff procedures, appropriate equipment setup and adjustment to
21 minimize finishing material usage and overspray, and appropriate
22 management of cleanup wastes; and

23 (iv) A description of the methods to be used at the
24 completion of initial or refresher training to demonstrate and
25 document successful completion and a record of the training date
26 for all personnel.

27 (3) Leak Inspection and Maintenance Plan. Each owner or
28 operator of an affected source shall prepare and maintain with the
29 work practice implementation plan a written leak inspection and
30 maintenance plan that specifies:

31 (a) A minimum visual inspection frequency of once per month
32 for all equipment used to transfer or apply finishing materials,
33 or organic solvents;

34 (b) An inspection schedule;

35 (c) Methods for documenting the date and results of each
36 inspection and any repairs that were made;

37 (d) The time elapsed between identifying the leak and making
38 the repair, using at a minimum the following schedule:

39 (i) A first attempt at repair, such as tightening of packing
40 glands, shall be made no later than five working days after the
41 leak is detected; and

42 (ii) Final repairs shall be made within 15 working days,
43 unless the leaking equipment is to be replaced by a new purchase,
44 in which case repairs shall be completed within three months.

45 (4) Cleaning and Washoff Solvent Accounting System. Each
46 owner or operator of an affected source shall develop an organic
47 solvent accounting form to record:

48 (a) The quantity and type of organic solvent used each month
49 for washoff and cleaning;

50 (b) The number of pieces washed off each month, and the
51 reason for the washoff; and

52 (c) The net quantity of spent organic solvent generated from
53 each washoff and cleaning operation each month, and whether it is

1 recycled onsite or disposed offsite. The net quantity of spent
2 solvent is equivalent to the total amount of organic solvent that
3 is generated from the activity minus any organic solvent that is
4 reused onsite for operations other than cleaning or washoff and
5 any organic solvent that was sent offsite for disposal.

6 (5) Spray Booth Cleaning. Each owner or operator of an
7 affected source shall not use compounds containing more than 8.0
8 percent by weight of volatile organic compound for cleaning spray
9 booth components other than conveyors, continuous coaters and
10 their enclosures, or metal filters, unless the spray booth is
11 being refurbished. If the spray booth is being refurbished, that
12 is, the spray booth coating or other material used to cover the
13 booth is being replaced, the affected source shall use no more
14 than 1.0 gallon of organic solvent to prepare the booth prior to
15 applying the booth coating.

16 (6) Storage Requirements. Each owner or operator of an
17 affected source shall use normally closed containers for storing
18 finishing, cleaning, and washoff materials.

19 (7) Application Equipment Requirements. Each owner or
20 operator of an affected source shall use conventional air spray
21 guns for applying finishing materials only under any of the
22 following circumstances:

23 (a) To apply finishing materials that have a volatile
24 organic compound content no greater than 1.0 kilogram per kilogram
25 of solids, as applied;

26 (b) For touch-up and repair under the following
27 circumstances:

28 (i) The touchup and repair occurs after completion of the
29 finishing operation; or

30 (ii) The touchup and repair occurs after the application of
31 stain and before the application of any other type of finishing
32 material, and the materials used for touchup and repair are
33 applied from a container that has a volume of no more than 2.0
34 gallons.

35 (c) When the spray gun is aimed and triggered automatically,
36 not manually;

37 (d) When the emissions from the finishing application
38 station are directed to a control device;

39 (e) The conventional air gun is used to apply finishing
40 materials and the cumulative total usage of that finishing
41 material is no more than 5.0 percent of the total gallons of
42 finishing material used during that semiannual reporting period;
43 or

44 (f) The conventional air gun is used to apply stain on a
45 part for which it is technically or economically infeasible to use
46 any other spray application technology. The affected source shall
47 demonstrate technical or economic infeasibility by submitting to
48 the executive secretary a videotape, a technical report, or other
49 documentation that supports the affected source's claim of
50 technical or economic infeasibility. The following criteria shall
51 be used, either independently or in combination, to support the
52 affected source's claim of technical or economic infeasibility:

53 (i) The production speed is too high or the part shape is

1 too complex for one operator to coat the part and the application
2 station is not large enough to accommodate an additional operator;
3 or

4 (ii) The excessively large vertical spray area of the part
5 makes it difficult to avoid sagging or runs in the stain.

6 (8) Line Cleaning. Each owner or operator of an affected
7 source shall pump or drain all organic solvent used for line
8 cleaning into a normally closed container.

9 (9) Gun Cleaning. Each owner or operator of an affected
10 source shall collect all organic solvent used to clean spray guns
11 into a normally closed container.

12 (10) Washoff Operations. Each owner or operator of an
13 affected source shall control emissions from washoff operations by
14 using normally closed tanks for washoff and minimizing dripping by
15 tilting or rotating the part to drain as much organic solvent as
16 possible.

17

18 **R307-343-6. Compliance Procedures and Monitoring Requirements.**

19 (1) Methodology. Terms and equations required in the
20 calculation of compliance are found in Appendix B, "Control of
21 Organic Compound Emissions from Wood Furniture Manufacturing
22 Operations." EPA-453/R-96-007, April 1996. The terms found in
23 B.3(b) on pages B-10 and B-11, Equation 3 on page B-18, Equations
24 4, 5, 6, and 7 on pages B-26 and B-27 are hereby adopted and
25 incorporated by reference. Copies are available at the Division
26 of Air Quality, the Division of Administrative Rules and most
27 state depository libraries.

28 (2) General Compliance. The owner or operator of an
29 affected source subject to the emission standards in Section R307-
30 343-4 shall demonstrate compliance with those provisions by using
31 any of the methods in (a) or (b) below.

32 (a) To demonstrate compliance with emission standards in
33 R307-343-4(1)(a), (b), or (c) or R307-343-4(2), maintain certified
34 product data sheets for each of these finishing materials and
35 strippable booth coatings. If solvent or other volatile organic
36 compound is added to the finishing material before application,
37 the affected source shall maintain documentation showing the
38 volatile organic compound content of the finishing material as
39 applied, in kilograms of volatile organic compound per kilogram of
40 solids.

41 (b) To comply through the use of a control system as
42 specified in R307-343-4(1)(d):

43 (i) Determine the overall control efficiency needed to
44 demonstrate compliance using Equation 3.

45 (ii) Document that the amount of volatile organic compound
46 in Equation 3 is obtained from the volatile organic compound and
47 solids content of the finishing material as applied;

48 (iii) Calculate the overall efficiency of the control
49 device, using the procedures in R307-343-7(4) or (5), and
50 demonstrate that the overall efficiency of the control device
51 calculated by Equation 6 is equal to or greater than the overall
52 efficiency of the control device calculated by Equation 3.

53 (3) Initial Compliance. The owner or operator of each

1 affected source shall demonstrate compliance by submitting an
2 initial compliance status report.

3 (a) Each owner or operator of an affected source that
4 complies through the procedures established in (2)(a) above shall
5 submit an initial compliance status report stating that compliant
6 sealers, topcoats and strippable booth coatings are being used by
7 the affected source.

8 (b) Each owner or operator of an affected source that
9 complies by using the procedures in R307-343-6(2)(a) and applies
10 sealers or topcoats using continuous coaters shall:

11 (i) Submit an initial compliance status report stating that
12 compliant sealers or topcoats, as determined by the volatile
13 organic compound content of the finishing material in the
14 reservoir and the volatile organic compound content as calculated
15 from records, are used; or

16 (ii) Submit an initial compliance status report stating that
17 compliant sealers or topcoats, as determined by the volatile
18 organic compound content of the finishing material in the
19 reservoir, are used and the viscosity of the finishing material in
20 the reservoir is being monitored. The affected source also shall
21 provide data that demonstrates the correlation between the
22 viscosity of the finishing material and the volatile organic
23 compound content of the finishing material in the reservoir.

24 (c) Each owner or operator of an affected source using a
25 control system, capture device or control device to comply with
26 the requirements of R307-343, as allowed by R307-343-4(1)(d) and
27 R307-343-6(2)(b), shall:

28 (i) Submit a monitoring plan that identifies the operating
29 parameter to be monitored for the capture device and demonstrates
30 why the parameter is appropriate to show ongoing compliance;

31 (ii) Conduct an initial performance test using the
32 procedures and test methods listed in R307-343-7(3) and (4) or
33 (5);

34 (iii) Calculate the overall control efficiency using
35 Equation 6; and

36 (iv) Determine those operating conditions that are critical
37 to determining compliance and establishing operating parameters
38 that will ensure compliance with the standard, as follows:

39 (A) For a thermal incinerator, use minimum combustion
40 temperature;

41 (B) For a catalytic incinerator equipped with a fixed
42 catalyst bed, use the minimum gas temperature both upstream and
43 downstream of the catalyst bed,

44 (C) For a catalytic incinerator equipped with a fluidized
45 catalyst bed, use the minimum gas temperature upstream of the
46 catalyst bed and the pressure drop across the catalyst bed;

47 (D) For a carbon adsorber, use either the total regeneration
48 mass stream flow for each regeneration cycle and the carbon bed
49 temperature after each regeneration, or the concentration level of
50 organic compounds exiting the adsorber, unless the owner or
51 operator requests and receives approval from the executive
52 secretary to establish other operating parameters;

53 (E) For a control device not listed in (A) through (D)

1 above, the operating parameter shall be established using the
2 procedures in R307-343-6(4)(c)(vi).

3 (v) Each owner or operator complying with R307-343-6(3)(c)
4 shall calculate the site-specific operating parameter value as the
5 arithmetic average of the maximum or minimum operating parameter
6 values, as appropriate, that demonstrate compliance with the
7 standards, during the three test runs required by R307-343-
8 7(3)(a).

9 (d) Each owner or operator of an affected source subject to
10 the work practice standards in R307-343-5 shall submit an initial
11 compliance status report, as required by R307-343-9(1), stating
12 that the work practice implementation plan has been developed and
13 procedures have been established for implementing the provisions
14 of the plan.

15 (4) Continuous Compliance Demonstrations.

16 (a) Each owner or operator of an affected source subject to
17 the provisions of R307-343-4 that comply using the procedures
18 established in R307-343-6(2)(a) shall demonstrate continuous
19 compliance by using compliant materials, maintaining records that
20 demonstrate the materials are compliant, and submitting a
21 compliance certification with the semiannual report required by
22 R307-343-9(2).

23 (i) The compliance certification shall state that compliant
24 sealers, topcoats and strippable booth coatings have been used
25 during the semiannual reporting period, or should otherwise
26 identify the days of noncompliance and the reasons for
27 noncompliance.

28 (ii) The compliance certification shall be signed by a
29 responsible official.

30 (b) Each owner or operator of an affected source subject to
31 the provisions of R307-343-4 that comply using the procedures
32 established in R307-343-6(2)(a) and applies sealers or topcoats
33 using continuous coaters shall demonstrate continuous compliance
34 by following the procedures in (i) or (ii) below.

35 (i) Use compliant materials, as determined by the volatile
36 organic compound content of the finishing material in the
37 reservoir and the volatile organic compound content as calculated
38 from records, and submit a compliance certification with the
39 semiannual report required by R307-343-9(2).

40 (A) The compliance certification shall state that compliant
41 sealers and topcoats have been used during the semiannual
42 reporting period, or should otherwise identify the days of
43 noncompliance and the reasons for noncompliance.

44 (B) The compliance certification shall be signed by a
45 responsible official.

46 (ii) Use compliant materials, as determined by the volatile
47 organic compound content of the finishing material in the
48 reservoir, maintaining a viscosity of the finishing material in
49 the reservoir that is no less than the viscosity of the initial
50 finishing material by monitoring the viscosity with a viscosity
51 meter or by testing the viscosity of the initial finishing
52 material and retesting the material in the reservoir each time
53 solvent is added, maintaining records of solvent additions, and

1 submitting a compliance certification with the semiannual report
2 required by R307-343-9(2).

3 (A) The compliance certification shall state that compliant
4 sealers and topcoats, as determined by the volatile organic
5 compound content of the finishing material in the reservoir, have
6 been used during the semiannual reporting period. Additionally,
7 the certification shall state that the viscosity of the finishing
8 material in the reservoir has not been less than the viscosity of
9 the initial finishing material, that is, the material that is
10 initially mixed and placed in the reservoir, during the semiannual
11 reporting period.

12 (B) The compliance certification shall be signed by a
13 responsible official.

14 (C) An affected source is in violation of the standard when
15 a sample of the finishing material as applied exceeds the
16 applicable limit established in R307-343-4(1)(a), (b), or (c), as
17 determined using EPA Method 24 or an alternate or equivalent
18 method, or the viscosity of the finishing material in the
19 reservoir is less than the viscosity of the initial finishing
20 material.

21 (c) Each owner or operator of an affected source subject to
22 the provisions of R307-343-4 that complies using a control system,
23 capture device or control device shall demonstrate continuous
24 compliance by installing, calibrating, maintaining, and operating
25 the appropriate monitoring equipment according to manufacturer's
26 specifications.

27 (i) Where a capture or control device is used, a device to
28 monitor the site-specific operating parameter established in
29 accordance with R307-343-6(3)(c)(i) is required.

30 (ii) Where an incinerator is used, a temperature monitoring
31 device equipped with a continuous recorder is required.

32 (A) Where a thermal incinerator is used, a temperature
33 monitoring device shall be installed in the firebox or in the
34 ductwork immediately downstream of the firebox in a position
35 before any substantial heat exchange occurs.

36 (B) Where a catalytic incinerator equipped with a fixed
37 catalyst bed is used, temperature monitoring devices shall be
38 installed in the gas stream immediately before and after the
39 catalyst bed.

40 (C) Where a catalytic incinerator equipped with a fluidized
41 catalyst bed is used, a temperature monitoring device shall be
42 installed in the gas stream immediately before the bed. In
43 addition, a pressure monitoring device shall be installed to
44 determine the pressure drop across the catalyst bed. The pressure
45 drop shall be measured monthly at a constant flow rate.

46 (iii) Where a carbon adsorber is used, one of the following
47 monitoring devices shall be used:

48 (A) An integrating regeneration stream flow monitoring
49 device having an accuracy of plus or minus 10 percent, capable of
50 recording the total regeneration stream mass flow for each
51 regeneration cycle; and a carbon bed temperature monitoring device
52 having an accuracy of plus or minus one percent of the temperature
53 being monitored expressed in degrees Celsius, or plus or minus 0.5

1 C, whichever is greater, capable of recording the carbon bed
2 temperature after each regeneration and within fifteen minutes of
3 completing any cooling cycle;

4 (B) An organic monitoring device, equipped with a continuous
5 recorder, to indicate the concentration level of organic compounds
6 exiting the carbon adsorber; or

7 (C) Any other monitoring device that has been approved by
8 the executive secretary as allowed under (vi) below.

9 (iv) Each owner or operator of an affected source shall not
10 operate the capture or control device at a daily average value
11 greater than or less than the operating parameter value, as
12 defined in the plan required by R307-343-6(3)(c)(i). The daily
13 average value shall be calculated as the average of all values for
14 a monitored parameter recorded during the operating day.

15 (v) Each owner or operator of an affected source that
16 complies through the use of a catalytic incinerator equipped with
17 a fluidized catalyst bed shall maintain a constant pressure drop,
18 measured monthly, across the catalyst bed.

19 (vi) An owner or operator using a control device not listed
20 in R307-343-6(3)(c) shall submit to the executive secretary a
21 description of the device, test data verifying the performance of
22 the device, and appropriate operating parameter values that will
23 be monitored to demonstrate continuous compliance with the
24 standard. Use of this device to demonstrate compliance is subject
25 to the executive secretary's approval.

26 (vii) The owner or operator shall submit a compliance
27 certification with the semiannual report required by R307-343-
28 9(2).

29 (A) The compliance certification shall state that, during
30 the semiannual reporting period, the monitoring plan has been
31 followed and the operating requirements included in the monitoring
32 plan have been met. If the plan has not been followed, or the
33 operating requirements have not been met, the compliance
34 certification shall identify the dates of noncompliance and the
35 reasons for noncompliance.

36 (B) The compliance certification shall be signed by a
37 responsible official.

38 (d) Each owner or operator of an affected source subject to
39 the work practice standards in R307-343-5 shall demonstrate
40 continuous compliance by following the work practice
41 implementation plan and submitting a compliance certification with
42 the semiannual report required by R307-343-9(2).

43 (i) The compliance certification shall state that the work
44 practice implementation plan was followed, or should otherwise
45 identify the periods of noncompliance with the work practice
46 standards.

47 (ii) The compliance certification shall be signed by a
48 responsible official.

49
50 **R307-343-7. Performance Test Methods.**

51 (1) The EPA Method 24 (40 CFR 60) shall be used to determine
52 the volatile organic compound content and the solids content by
53 weight of the finishing materials as supplied by the manufacturer.

1 The owner or operator of the affected source may request approval
2 from the executive secretary to use an alternate or equivalent
3 method for determining the volatile organic compound content of
4 the finishing material. Batch formulation information may be
5 accepted by the executive secretary if the source demonstrates
6 that a finishing material does not release volatile organic
7 compound reaction byproducts during the cure. If the EPA Method
8 24 value is higher than the source's formulation data, the EPA
9 Method 24 test shall govern. Sampling procedures shall follow the
10 guidelines in "Standard Procedures for Collection of Coating and
11 Ink Samples for volatile organic compound Content Analysis by
12 Reference Method 24 and Reference Method 24A," EPA-340/1-91-010.

13 (2) Each owner or operator using a control system to
14 demonstrate compliance shall determine the overall control
15 efficiency of the control system as the product of the capture and
16 control device efficiencies, using the test methods cited in (3)
17 below and the procedures in (4) or (5) below.

18 (3) Each owner or operator using a control system shall
19 demonstrate initial compliance using the procedures in (a) through
20 (f) below.

21 (a) The EPA Method 18, 25, or 25A shall be used to determine
22 the volatile organic compound concentration of gaseous air
23 streams. The test shall consist of three separate runs, each
24 lasting a minimum of 30 minutes.

25 (b) The EPA Method 1 or 1A shall be used for sample and
26 velocity traverses.

27 (c) The EPA Method 2, 2A, 2C, or 2D shall be used to measure
28 velocity and volumetric flow rates.

29 (d) The EPA Method 3 shall be used to analyze the exhaust
30 gases.

31 (e) The EPA Method 4 shall be used to measure the moisture
32 in the stack gas.

33 (f) The EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be
34 performed, as applicable, at least twice during each test period.

35 (4) Each owner or operator using a control system to
36 demonstrate compliance with R307-343 shall use the procedures in
37 (a) through (f) below.

38 (a) Construct the overall volatile organic compound control
39 system so that volumetric flow rates and volatile organic compound
40 concentrations can be determined by the test methods specified in
41 R307-343-7(3);

42 (b) Measure the capture efficiency from the affected
43 emission points by capturing, venting, and measuring all volatile
44 organic compound emissions from the affected emission points. To
45 measure the capture efficiency of a capture device located in an
46 area with nonaffected volatile organic compound emission points,
47 the affected emission points shall be isolated from all other
48 volatile organic compound sources by one of the following methods:

49 (i) Build a temporary total enclosure around the affected
50 emission points;

51 (ii) Shut down all nonaffected volatile organic compound
52 emission points and continue to exhaust fugitive emissions from
53 the affected emission points through any building ventilation

1 system and other room exhausts such as drying ovens. All exhaust
2 air must be vented through stacks suitable for testing; or

3 (iii) Use another methodology approved by the executive
4 secretary provided it complies with the EPA criteria for
5 acceptance under 40 CFR Part 63, Appendix A, Method 301.

6 (c) Operate the control system with all affected emission
7 points connected and operating at maximum production rate;

8 (d) Determine the efficiency of the control device using
9 Equation 4;

10 (e) Determine the efficiency of the capture system using
11 Equation 5;

12 (f) Compliance is demonstrated if the overall control
13 efficiency in Equation 6 is greater than or equal to the overall
14 control efficiency calculated by Equation 3, in accordance with
15 R307-343-6(2)(b)(i).

16 (5) An alternate to the compliance method presented in (4)
17 above is the installation of a permanent total enclosure.

18 (a) Each affected source that complies using a permanent
19 total enclosure shall demonstrate that the total enclosure meets
20 the following requirements:

21 (i) The total area of all natural draft openings shall not
22 exceed five percent of the total surface area of the enclosure's
23 walls, floor, and ceiling;

24 (ii) All sources of emissions within the enclosure shall be
25 a minimum of four equivalent diameters away from each natural
26 draft opening;

27 (iii) Average inward face velocity (FV) across all natural
28 draft openings shall be a minimum of 3,600 meters per hour or 200
29 feet per minute as determined by the following procedures:

30 (A) All forced makeup air ducts and all exhaust ducts are
31 constructed so that the volumetric flow rate in each can be
32 accurately determined by the test methods and procedures specified
33 in (3)(b) and (3)(c) above. Volumetric flow rates shall be
34 calculated without the adjustment normally made for moisture
35 content; and

36 (B) Determine face velocity by Equation 7:

37 (iv) All access doors and windows whose areas are not
38 included as natural draft openings and are not included in the
39 calculation of face velocity shall be closed during routine
40 operation of the process.

41 (b) Determine the control device efficiency using Equation
42 4, and the test methods and procedures specified in R307-343-7(3).

43 (c) For a permanent total enclosure, the capture efficiency
44 in Equation 5 is equal to one.

45 (d) For owners or operators using a control system to comply
46 with the provisions of R307-343, compliance is demonstrated if:

47 (i) The capture efficiency of the enclosure is determined to
48 equal one; and

49 (ii) The overall efficiency of the control system calculated
50 by Equation 6 in accordance with (4) above is greater than or
51 equal to the overall efficiency of the control system calculated
52 by Equation 3 in accordance with R307-343-6(2)(b).

R307-343-8. Recordkeeping Requirements.

(1) The owner or operator of an affected source subject to the emission limits in R307-343-4 shall maintain records of the following:

(a) A certified product data sheet for each finishing material and strippable booth coating subject to the emission limits in R307-343-4;

(b) The volatile organic compound content, kilograms of volatile organic compound per kilogram of solids, as applied, of each finishing material and strippable booth coating subject to the emission limits in R307-343-4, and copies of data sheets documenting how the as applied values were determined.

(2) The owner or operator of an affected source following the compliance procedures of R307-343-6(4)(b) shall maintain the records required by (1) above and records of solvent and finishing material additions to the continuous coater reservoir and viscosity measurements.

(3) The owner or operator of an affected source following the compliance method of R307-343-6(2)(b) shall maintain the following records:

(a) Copies of the calculations to demonstrate that the control system achieves emission control equivalent to the requirements of R307-343-4(1)(a) or (b), as well as the data that are necessary to support the calculation of the emission limit in Equation 3 and the calculation of overall control efficiency in Equation 6;

(b) Records of the daily average value of each continuously monitored parameter for each operating day. If all recorded values for a monitored parameter are within the range established during the initial performance test, the owner or operator may record that all values were within the range rather than calculating and recording an average for that day; and

(c) Records of the pressure drop across the catalyst bed for sources complying with the emission limitations using a catalytic incinerator with a fluidized catalyst bed.

(4) The owner or operator of an affected source subject to the work practice standards in R307-343-5 shall maintain onsite the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including:

(a) Records demonstrating that the operator training program is in place;

(b) Records maintained in accordance with the inspection and maintenance plan;

(c) Records associated with the cleaning solvent accounting system;

(d) Records associated with the limitation on the use of conventional air spray guns showing total finishing material usage and the percentage of finishing materials applied with conventional air spray guns for each semiannual reporting period;

(e) Records showing the volatile organic compound content of compounds used for cleaning booth components, except for solvent used to clean conveyors, continuous coaters and their enclosures, or metal filters; and

1 (f) Copies of logs and other documentation to demonstrate
2 that the other provisions of the work practice implementation plan
3 are followed.

4 (5) In addition to the records required by R307-343-8(1) of
5 this section, the owner or operator of an affected source that
6 complies using the provisions of R307-343-6(2)(a) or R307-343-5
7 shall maintain a copy of the compliance certifications submitted
8 in accordance with R307-343-9(2) for each semiannual period
9 following the compliance date.

10 (6) The owner or operator of an affected source shall
11 maintain a copy of all other information submitted with the
12 initial status report required by R307-343-9(1) and the semiannual
13 reports required by R307-343-9(2).

14 (7) The owner or operator of an affected source shall
15 maintain all records for a minimum of five years.

16 17 **R307-343-9. Reporting Requirements.**

18 (1) The owner or operator of any new source subject to R307-
19 343 that complies using the procedures established in R307-343-
20 6(2)(a) shall submit an initial compliance report within 60 days
21 of initial startup. The owner or operator of a new source subject
22 to R307-343 that complies using the procedures established in
23 R307-343-6(2)(b) shall submit an initial compliance report within
24 180 days of initial startup. Each initial compliance report shall
25 include the items required by R307-343-6(3).

26 (2) The owner or operator of an affected source subject to
27 R307-343 and demonstrating compliance in accordance with R307-343-
28 6(2)(a) or (b) shall submit a semiannual report covering the
29 previous six months of wood furniture manufacturing operations.

30 (a) Reports shall be submitted on January 2 and July 2 each
31 year.

32 (b) Each semiannual report shall include the information
33 required by R307-343-6(4), a statement of whether the affected
34 source was in compliance or noncompliance. If the affected source
35 was not in compliance, the measures taken to bring the affected
36 source into compliance shall be reported.

37 38 **R307-343-10. Compliance Schedule.**

39 All sources within any newly designated nonattainment area
40 for ozone shall be in compliance with this rule within 180 days of
41 the effective date of designation to nonattainment.

42
43 **KEY: air pollution, ozone, wood furniture, coatings**

44 **Date of Enactment or Last Substantive Amendment: 2007**

45 **Notice of Continuation: June 8, 2004**

46 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a);**
47 **19-2-104(3)(e)**