

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: June 24, 2014

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Amend R307-335; R307-342 through 350; and R307-352 through 355.

The EPA has indicated its intention to approve the area source coatings rules for the PM_{2.5} State Implementation Plans as Reasonable Available Control Technology (RACT), but not until 1) they are amended to clarify that the amount of control removal specified in each rule is based on the entire system, and 2) the inspection and recordkeeping requirements for these systems are expanded. We have worked closely with EPA to craft agreeable rule language that is ready to be proposed for public comment.

In each of the existing rules, with the exception of R307-335, the add-on control efficiency is based on the control device, rather than a system-based efficiency which EPA requires; therefore, these values have been amended in the proposed rules. The amended values are taken from the same EPA guidance documents or comparative RACT rules used during the initial RACT analysis, as described below for each rule.

Advanced notice of rulemaking containing a draft of the Board memo and each rule was distributed to the Utah Manufacturers Association, the American Coatings Association, the local aerospace industry, and the Utah Auto Body Association.

R307-335. Degreasing and Solvent Cleaning Operations.

The emission control efficiency in this rule is already based on the overall system. EPA requested that we add the same testing and recordkeeping requirements inserted in the coating rules.

R307-342. Adhesives and Sealants.

The rule is based on the most current Ozone Transport Commission Model Rule which requires an overall capture and control efficiency of at least 85%.

R307-343. Emissions Standards for Wood Furniture Manufacturing Operations.

The RACT analysis was based on the EPA's Control Technology Guideline (CTG) document, *Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations*, EPA 453/R-96-007, April 1996. The CTG provides a model rule but does not suggest a specific overall system efficiency value.

The San Joaquin Valley Air District rule 4606 was selected for the RACT comparative analysis. That rule requires an overall system efficiency of 85%. We are proposing the same 85% requirement.

R307-344. Paper, Film, and Foil Coatings.

The RACT analysis was based on the CTG, *Control Technologies Guidelines for Paper, Film, and Foil Coatings*, EPA 453/R-07-003, September 2007. EPA developed the recommendations in the 2007 CTG after reviewing an earlier CTG, the new source performance standards (NSPS), and national emission standards for hazardous air pollutants (NESHAP). Because this CTG is a comprehensive document, we are proposing to apply the CTG-recommended 90% overall system efficiency.

R307-345. Fabric and Vinyl Coatings.

The EPA CTG for this industry is aged; therefore, we consider other state rules more appropriate for our RACT analysis. The San Joaquin Valley Air Pollution Control District rule 4607 is a comparable rule with a requirement of 90% overall system efficiency.

R307-346. Metal Furniture Surface Coatings.

The RACT analysis was based on the CTG, *Control Technologies Guidelines for Metal Furniture Coatings*, EPA 453/R-07-005, September 2007. This guidance document provides a presumptive RACT. EPA developed the recommendations in the 2007 CTG after reviewing an earlier CTG, the NSPS, and NESHAP. Because this CTG is a comprehensive document, we are proposing to apply the CTG-recommended 90% overall system efficiency.

R307-347. Large Appliance Surface Coatings.

The RACT analysis was based on the CTG, *Control Technologies Guidelines for Large Appliance Coatings*, EPA 453/R-07-004, September 2007. EPA developed the recommendations in the 2007 CTG after reviewing an earlier CTG, the NSPS and NESHAP. Because this CTG is a comprehensive document, we are proposing to apply the CTG-recommended 90% overall system efficiency.

R307-348. Magnet Wire Coatings.

There is no CTG that directly applies to this industry; therefore, we relied on the South Coast Air Quality Management District rule 1126 for our comparative RACT analysis. That rule requires an overall system efficiency of 90%. We are proposing the same 90% requirement.

R307-349. Flat Wood Panel Coatings.

The RACT analysis was based on the CTG, *Control Technologies Guidelines for Flat Wood Paneling Coatings*, EPA 453/R-06-004, September 2006. The CTG recommends an overall system efficiency of 90%.

R307-350. Miscellaneous Metal Parts and Products Coatings.

The RACT analysis was based on the CTG, *Control Technologies Guidelines for Miscellaneous Metal and Plastic Parts Coatings*, EPA 453/R-08-003, September 2008. EPA developed the recommendations in the CTG based on a review of the former CTG, the 1988 NSPS, and the 2004 NESHAP. Because this CTG is a comprehensive document, we are proposing to apply the CTG-recommended 90% overall system efficiency.

R307-352. Metal Container, Closure, and Coil Coatings.

The RACT analysis was based on the CTG, *Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles and Light-Duty Trucks*, EPA 450/2-77-008. The CTG provided a comparative analysis of existing rules, and based on that analysis, we used the Bay Area Air Quality Management District Regulation 8, Rule 11 as the primary reference source. The secondary source was Rule 1125 from the South Coast Air Quality Management District. We are proposing to apply the 90% requirement as per Regulation 8 Rule 11.

R307-353. Plastic Parts Coatings.

The RACT analysis was based on the CTG, *Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings* (EPA 453/R-08-003, September 2008) which contains information on plastic coating. We are proposing to apply the CTG-recommended 90% overall system efficiency.

R307-354. Automotive Refinishing Coatings.

The RACT analysis was based on the CTG, *Control Techniques Guideline for Reduction for Volatile Organic Compound Emissions from Automobile Refinishing* (EPA 450/3-88-009, 1988/10) and the Alternative Control Techniques Document, *Automotive Refinishing* (EPA 453/R-94-031, 1994/04). These documents do not provide a system efficiency recommendation; therefore, we are proposing to use a reasonable efficiency level of 90%, which is near the expected level of reduction by applying low-VOC coatings.

R307-355. Control of Emissions from Aerospace Manufacture and Rework Facilities.

The CTG, *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace manufacturing and rework Operations*, EPA-453/R-97-004, December 1997, page B-8, provides a model rule with a system efficiency of at least 81%. The San Joaquin Valley Air District rule 4605 was selected for the RACT comparative analysis. That rule requires a system efficiency of 85%. The Missouri rule 10CSR 10-5.295 was also used as a RACT comparative rule, and it requires the control system to reduce VOCs by 81%. Given the warehouse size operating areas common to these sources, it would be challenging at best to meet an efficiency value beyond 81%; therefore, we are proposing to apply the EPA guidance value and the Missouri RACT value of 81%.

Staff Recommendation: Staff recommends the Board propose R307-335; R307-342 through 350; and R307-352 through 355 for public comment.

1 **R307. Environmental Quality, Air Quality.**

2 **R307-335. Degreasing and Solvent Cleaning Operations.**

3 **R307-335-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emission from degreasing and solvent cleaning operations.

6
7 **R307-335-2. Applicability.**

8 R307-335 applies to all degreasing or solvent cleaning operations
9 that use VOCs and that are located in PM10 and PM2.5 nonattainment
10 and maintenance plan areas as defined in 40 CFR 81.345 (July 1, 2011).

11
12 **R307-335-3. Definitions.**

13 The following additional definitions apply to R307-335:

14 "Batch open top vapor degreasing" means the batch process of
15 cleaning and removing grease and soils from metal surfaces by
16 condensing hot solvent vapor on the colder metal parts.

17 "Cold cleaning" means the batch process of cleaning and removing
18 soils from metal surfaces by spraying, brushing, flushing or immersing
19 while maintaining the solvent below its boiling point.

20 "Conveyorized degreasing" means the continuous process of
21 cleaning and removing greases and soils from metal surfaces by using
22 either cold or vaporized solvents.

23 "Department of Defense military technical data" means a
24 specification that specifies design requirements, such as materials
25 to be used, how a requirement is to be achieved, or how an item is
26 to be fabricated or constructed.

27 "Freeboard ratio" means the freeboard height (distance between
28 solvent line and top of container)divided by the width of the
29 degreaser.

30 "Industrial solvent cleaning" means operations performed using
31 a liquid that contains any VOC, or combination of VOCs, which is used
32 to clean parts, tools, machinery, equipment and work areas. Cleaning
33 operations include, but are not limited to, spraying, wiping,
34 flushing, and purging.

35 "Open top vapor degreaser" means the batch process of cleaning
36 and removing soils from metal surfaces by condensing low solvent vapor
37 on the colder metal parts.

38 "Separation operation" means any process that separates a mixture
39 of compounds and solvents into two or more components. Specific
40 mechanisms include extraction, centrifugation, filtration, and
41 crystallization.

42 "Solvent metal cleaning" means the process of cleaning soils
43 from metal surfaces by cold cleaning, open top vapor degreasers, or
44 conveyorized degreasing.

45
46 **R307-335-4. Cold Cleaning Facilities.**

47 No owner or operator shall operate a degreasing or solvent
48 cleaning operation unless conditions in R307-335-4(1) through (7)
49 are met.

50 (1) A cover shall be installed which shall remain closed except
51 during actual loading, unloading or handling of parts in cleaner.
52 The cover shall be designed so that it can be easily operated with

1 one hand if:

2 (a) The volatility of the solvent is greater than 2 kPa (15
3 mm Hg or 0.3 psi) measured at 38 degrees C (100 degrees F),

4 (b) The solvent is agitated, or

5 (c) The solvent is heated.

6 (2) An internal draining rack for cleaned parts shall be
7 installed on which parts shall be drained until all dripping ceases.

8 If the volatility of the solvent is greater than 4.3 kPa (32 mm Hg
9 at 38 degrees C (100 degrees F)), the drainage facility must be
10 internal, so that parts are enclosed under the cover while draining.

11 The drainage facility may be external for applications where an
12 internal type cannot fit into the cleaning system.

13 (3) Waste or used solvent shall be stored in covered containers.

14 (4) Tanks, containers and all associated equipment shall be
15 maintained in good operating condition, and leaks shall be repaired
16 immediately or the degreaser shall be shutdown.

17 (5) Written procedures for the operation and maintenance of
18 the degreasing or solvent cleaning equipment shall be permanently
19 posted in an accessible and conspicuous location near the equipment.

20 (6) If the solvent volatility is greater than 4.3 kPa (33 mm
21 Hg or 0.6 psi) measured at 38 degrees C (100 degrees F), or if solvent
22 is heated above 50 degrees C (120 degrees F), then one of the following
23 control devices shall be used:

24 (a) Freeboard that gives a freeboard ratio greater than 0.7;

25 (b) Water cover if the solvent is insoluble in and heavier than
26 water); or

27 (c) Other systems of equivalent control, such as a refrigerated
28 chiller or carbon adsorption.

29 (7) If used, the solvent spray shall be a solid fluid stream
30 at a pressure that does not cause excessive splashing and may not
31 be a fine, atomized or shower type spray.

32

33 **R307-335-5. Open Top Vapor Degreasers.**

34 Owners or operators of open top vapor degreasers shall, in
35 addition to meeting the requirements of R307-335-4(3), (4) and (5),

36 (1) Equip the vapor degreaser with a cover that can be opened
37 and closed without disturbing the vapor zone. The cover shall be
38 closed except when processing work loads through the degreaser;

39 (2) Install one of the following control devices:

40 (a) Equipment necessary to sustain:

41 (i) A freeboard ratio greater than or equal to 0.75, and

42 (ii) A powered cover if the degreaser opening is greater than
43 1 square meter (10.8 square feet),

44 (b) Refrigerated chiller,

45 (c) Enclosed design (cover or door opens only when the dry part
46 is actually entering or exiting the degreaser),

47 (d) Carbon adsorption system, with ventilation greater than
48 or equal to 15 cubic meters per minute per square meter (50 cubic
49 feet per minute per square foot) of air/vapor area when cover is open
50 and exhausting less than 25 parts per million of solvent averaged
51 over one complete adsorption cycle;

52 (3) Minimize solvent carryout by:

- 1 (a) Racking parts to allow complete drainage,
- 2 (b) Moving parts in and out of the degreaser at less than 3.3
- 3 meters per minute (11 feet per minute),
- 4 (c) Holding the parts in the vapor zone at least 30 seconds
- 5 or until condensation ceases,
- 6 (d) Tipping out any pool of solvent on the cleaned parts before
- 7 removal, and
- 8 (e) Allowing the parts to dry within the degreaser for at least
- 9 15 seconds or until visibly dry.
- 10 (4) Spray parts only in or below the vapor level;
- 11 (5) Not use ventilation fans near the degreaser opening, nor
- 12 provide exhaust ventilation exceeding 20 cubic meters per minute per
- 13 square meter (65 cubic feet per minute per square foot) in degreaser
- 14 open area, unless necessary to meet state and federal occupational,
- 15 health, and safety requirements.
- 16 (6) Not degrease porous or absorbent materials, such as cloth,
- 17 leather, wood or rope;
- 18 (7) Not allow work loads to occupy more than half of the
- 19 degreaser's open top area;
- 20 (8) Ensure that solvent is not visually detectable in water
- 21 exiting the water separator;
- 22 (9) Install safety switches on the following:
- 23 (a) Condenser flow switch and thermostat (shuts off sump heat
- 24 if condenser coolant is either not circulating or too warm); and
- 25 (b) Spray switch (shuts off spray pump if the vapor level drops
- 26 excessively, i.e., greater than 10 cm (4 inches).
- 27 (10) Open top vapor degreasers with an open area smaller than
- 28 one square meter (10.8 square feet) are exempt from R307-335-5(2)(b)
- 29 and (d).

30

31 **R307-335-6. ConveyORIZED Degreasers.**

32 Owners and operators of conveyORIZED degreasers shall, in
33 addition to meeting the requirements of R307-335-4(3), (4) and (5)
34 and R307-335-5(5):

35 (1) Install one of the following control devices for conveyORIZED
36 degreasers with an air/vapor interface equal to or greater than two
37 square meters (21.5 square feet):

- 38 (a) Refrigerated chiller; or
- 39 (b) Carbon adsorption system, with ventilation greater than
- 40 or equal to 15 cubic meters per minute per square meter (50 cubic
- 41 feet per minute per square foot) of air/vapor area when downtime covers
- 42 are open, and exhausting less than 25 parts per million of solvent,
- 43 by volume, averaged over a complete adsorption cycle.

44 (2) Equip the cleaner with equipment, such as a drying tunnel
45 or rotating (tumbling) basket, sufficient to prevent cleaned parts
46 from carrying out solvent liquid or vapor.

47 (3) Provide downtime covers for closing off the entrance and
48 exit during shutdown hours. Ensure that down-time cover is placed
49 over entrances and exits of conveyORIZED degreasers immediately after
50 the conveyor and exhaust are shut down and is removed just before
51 they are started up.

- 52 (4) Minimize carryout emissions by racking parts for best

1 drainage and maintaining the vertical conveyor speed at less than
2 3.3 meters per minute (11 feet per minute).

3 (5) Minimize openings: Entrances and exits should silhouette
4 work loads so that the average clearance (between parts and the edge
5 of the degreaser opening) is either less than 10 cm (4 inches) or
6 less than 10% of the width of the opening.

7 (6) Install safety switches on the following:

8 (a) Condenser flow switch and thermostat - shuts off sump heat
9 if coolant is either not circulating or too warm;

10 (b) Spray switch - shuts off spray pump or conveyor if the vapor
11 level drops excessively, i.e., greater than 10 cm or (4 inches); and

12 (c) Vapor level control thermostat - shuts off sump level if
13 vapor level rises too high.

14 (7) Ensure that solvent is not visibly detectable in the water
15 exiting the water separator.

16
17 **R307-335-7. Industrial Solvent Cleaning.**

18 (1) Exemptions. The requirements of R307-335-7 do not apply
19 to aerospace, wood furniture, shipbuilding and repair, flat wood
20 paneling, large appliance, metal furniture, paper film and foil,
21 plastic parts, miscellaneous metal parts coatings and light autobody
22 and truck assembly coatings, flexible packaging, lithographic and
23 letterpress printing materials, fiberglass boat manufacturing
24 materials, and operations that are exclusively covered by Department
25 of Defense military technical data and performed by a Department of
26 Defense contractor and/or on site at installations owned and/or
27 operated by the United States Armed Forces.

28 (2) Operators of industrial solvent cleaning that emit 15 pounds
29 of VOCs or more per day from industrial solvent cleaning operations,
30 shall reduce VOC emissions from the use, handling, storage, and
31 disposal of cleaning solvents and shop towels by implementing the
32 following work practices:

33 (a) Covering open containers; and

34 (b) Storing used applicators and shop towels in closed fire
35 proof containers, and

36 (c) Limiting VOC emissions by either:

37 (i) Using solvents with a VOC limit in Table 1; or

38 (ii) Installing an emission control system designed to have an
39 overall capture and control efficiency of at least 85%.

40
41 TABLE 1
42 Solvent Cleaning VOC Limits

43

44 Solvent Cleaning Category	VOC Limit (lb/gal)
45 Coatings, adhesives & ink manufacturing	4.2
46 Electronic parts & components	4.2
47 General miscellaneous cleaning	2.5
48 Medical devices and pharmaceutical	
49 Tools, equipment & machinery	6.7
50 General surface cleaning	5.0
51 Screening printing operations	4.2
52 Semiconductor tools, maintenance & equipment	

2
3 **R307-335-8. Add-on Emission Control Systems Operations.**

4 [~~—(1) The owner or operator of a control device shall maintain~~
5 ~~certification from the manufacturer that the emission control system~~
6 ~~will attain at least 85% overall efficiency performance and make the~~
7 ~~certification available to the director upon request.~~

8 ~~—(2) Emission control systems shall be operated and maintained~~
9 ~~in accordance with the manufacturer recommendations to maintain at~~
10 ~~least 85% overall efficiency performance. The owner or operator shall~~
11 ~~maintain for a minimum of two years records of operating and~~
12 ~~maintenance sufficient to demonstrate that the equipment is being~~
13 ~~operated and maintained in accordance with the manufacturer~~
14 ~~recommendations.]~~

15 (1) Determination of overall capture and control efficiency shall
16 be determined using EPA approved methods, as follows.

17 (a) The capture efficiency of a VOC emission control system's
18 VOC collection device shall be determined according to EPA's
19 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
20 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

21 (b) The control efficiency of a VOC emission control system's
22 VOC control device shall be determined using test methods in Appendices
23 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
24 gaseous organic concentrations, or emissions of exempt compounds,
25 as applicable.

26 (c) An alternative test method may be substituted for the
27 preceding test methods after review and approval by the EPA
28 Administrator.

29 (2) The owner or operator of a control system shall provide
30 documentation that the emission control system will attain the
31 requirements of R307-335-7(2)(c)(ii).

32 (3) The owner or operator shall maintain records of key system
33 parameters necessary to ensure compliance with R307-335-7. Key system
34 parameters may include, but are not limited to, temperature, pressure
35 and flow rates. Operator inspection schedule, monitoring,
36 recordkeeping, and key parameters shall be in accordance with the
37 manufacturer's recommendations, and as required to demonstrate
38 operations are providing continuous emission reduction from the source
39 during all periods that the operations cause emissions from the source.

40 (4) The owner or operator shall maintain for a minimum of two
41 years records of operating and maintenance sufficient to demonstrate
42 that the equipment is being operated and maintained in accordance
43 with the manufacturer recommendations.

44 **R307-335-9. Recordkeeping.**

45 ~~—The owner or operator shall maintain, for a minimum of two years,~~
46 ~~records of the solvent VOC content applied and the physical~~
47 ~~characteristics that demonstrate compliance with R307-335.~~

48
49 **R307-335-10. Compliance Schedule.**

50 ~~—(1) All sources shall be in compliance with R307-335-7 by August~~
51 ~~1, 2014.]~~

1 **KEY:** air pollution, degreasing, solvent cleaning
2 **Date of Enactment or Last Substantive Amendment:** 2014
3 **Notice of Continuation:** February 1, 2012
4 **Authorizing, and Implemented or Interpreted Law:** 19-2-104(1)(a)

1 **R307. Environmental Quality, Air Quality.**

2 **R307-342. Adhesives and Sealants.**

3 **R307-342-1. Purpose.**

4 The purpose of this rule is to limit emissions of volatile organic
5 compounds (VOCs) from adhesives, sealants, primers and cleaning
6 solvents.

7
8 **R307-342-2. Applicability.**

9 Beginning September 1, 2014, R307-342 applies to any person who
10 manufactures any adhesive, sealant, adhesive primer or sealant primer
11 in Box Elder, Cache, Davis, Salt Lake, Utah or Weber counties and
12 to any person who sells, supplies, or applies any adhesive, sealant,
13 adhesive primer or sealant primer in Box Elder, Cache, Davis, Salt
14 Lake, Tooele, Utah or Weber counties manufactured on or after September
15 1, 2014.

16
17 **R307-342-3. Exemptions.**

18 (1) The requirements of R307-342 do not apply to the following:

19 (a) Adhesives, sealants, adhesive primers or sealant primers
20 being tested or evaluated in any research and development, quality
21 assurance or analytical laboratory;

22 (b) Adhesives and sealants that contain less than 20 grams of
23 VOC per liter of adhesive or sealant, less water and exempt solvents,
24 as applied;

25 (c) Cyanoacrylate adhesives;

26 (d) Adhesives, sealants, adhesive primers or sealant primers
27 that are sold or supplied by the manufacturer or supplier in containers
28 with a net volume of 16 fluid ounces or less or that have a net weight
29 of one pound or less, except plastic cement welding adhesives and
30 contact adhesives;

31 (e) Contact adhesives that are sold or supplied by the
32 manufacturer or supplier in containers with a net volume of one gallon
33 or less;

34 (f) Aerosol adhesives and primers dispensed from aerosol spray
35 cans; or

36 (g) Polyester bonding putties to assemble fiberglass parts at
37 fiberglass boat manufacturing facilities and at other reinforced
38 plastic composite manufacturing facilities.

39 (2) The requirements of R307-342 do not apply to the use of
40 adhesives, sealants, adhesive primers, sealant primers, surface
41 preparation and cleanup solvents in the following operations:

42 (a) Tire repair operations, provided the label of the adhesive
43 states "for tire repair only;"

44 (b) In the production, rework, repair, or maintenance of
45 aerospace vehicles and components, and undersea-based weapon systems;

46 (c) In the manufacture of medical equipment;

47 (d) Operations that are exclusively covered by Department of
48 Defense military technical specifications and standards and performed
49 by a Department of Defense contractor and/or on site at installations
50 owned and/or operated by the United States Armed Forces.

51 (e) Plaque laminating operations in which adhesives are used

1 to bond clear, polyester acetate laminate to wood with lamination
2 equipment installed prior to July 1, 1992.

3 (3) The requirements of R307-342 do not apply to commercial
4 and industrial operations if the total VOC emissions from all
5 adhesives, sealants, adhesive primers and sealant primers used at
6 the source are less than 200 pounds per calendar year.

7 (4) Adhesive products and sealant products shipped, supplied
8 or sold exclusively outside of the areas specified in R307-342-2 are
9 exempt from the requirements of this rule.

10 (5) R307-342 shall not apply to any adhesive, sealant, adhesive
11 primer or sealant primer products manufactured for shipment and use
12 outside of the counties specified R307-342-2 as long as the
13 manufacturer or distributor can demonstrate both that the product
14 is intended for shipment and use outside of the applicable counties
15 and that the manufacturer or distributor has taken reasonable prudent
16 precautions to assure that the product is not distributed to the
17 applicable counties.

18 (6) R307-342 shall not apply to the use of any adhesives,
19 sealants, adhesive primers, sealant primers, cleanup solvents and
20 surface preparation solvents, provided the total volume of
21 noncomplying adhesives, sealants, primers, cleanup and surface
22 preparation solvents applied facility-wide does not exceed 55 gallons
23 per rolling 12-month period.

24 (7) Commercial and industrial operations claiming exemption
25 pursuant to R307-342-3 shall record and maintain operational records
26 sufficient to demonstrate compliance.

27 28 **R307-342-4. Definitions.**

29 The following additional definitions apply to R307-342:

30 "Acrylonitrile-butadiene-styrene (ABS) welding adhesive" means
31 any adhesive intended by the manufacturer to weld
32 acrylonitrile-butadiene-styrene pipe, which is made by reacting
33 monomers of acrylonitrile, butadiene and styrene.

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

37 "Adhesive primer" means any product intended by the manufacturer
38 for application to a substrate, prior to the application of an
39 adhesive, to provide a bonding surface.

40 "Aerospace component" means a fabricated part, assembled part,
41 or completed unit, including passenger safety equipment, of any
42 aircraft, helicopter, missile or space vehicle.

43 "Architectural sealant or primer" means any sealant or sealant
44 primer intended by the manufacturer to be applied to stationary
45 structures, including mobile homes and their appurtenances.
46 Appurtenances to an architectural structure include, but are not
47 limited to: hand railings, cabinets, bathroom and kitchen fixtures,
48 fences, rain gutters and downspouts, and windows.

49 "Automotive glass adhesive primer" means an adhesive primer
50 labeled by the manufacturer to be applied to automotive glass prior
51 to installation of the glass using an adhesive or sealant.

1 "Ceramic tile installation adhesive" means any adhesive intended
2 by the manufacturer for use in the installation of ceramic tiles.

3 "Chlorinated polyvinyl chloride plastic (CPVC) plastic" means
4 a polymer of the vinyl chloride monomer that contains 67% chlorine
5 and is typically identified with a CPVC marking.

6 "Chlorinated polyvinyl chloride (CPVC) welding adhesive" means
7 an adhesive labeled for welding of chlorinated polyvinyl chloride
8 plastic.

9 "Cleanup solvent" means a VOC-containing material used either
10 to remove a loosely held uncured (i.e., not dry to the touch) adhesive
11 or sealant from a substrate or to clean equipment used in applying
12 a material.

13 "Computer diskette jacket manufacturing adhesive" means any
14 adhesive intended by the manufacturer to glue the fold-over flaps
15 to the body of a vinyl computer diskette jacket.

16 "Contact bond adhesive" means an adhesive that:

17 (1) is designed for application to both surfaces to be bonded
18 together;

19 (2) is allowed to dry before the two surfaces are placed in
20 contact with each other;

21 (3) forms an immediate bond that is impossible, or difficult,
22 to reposition after both adhesive-coated surfaces are placed in
23 contact with each other; and

24 (4) does not need sustained pressure or clamping of surfaces
25 after the adhesive-coated surfaces have been brought together using
26 sufficient momentary pressure to establish full contact between both
27 surfaces.

28 "Contact adhesive" means an adhesive that feels dry to the touch
29 and bonds instantly. Contact adhesives do not include rubber cements
30 that are primarily intended for use on paper substrates and vulcanizing
31 fluids that are designed and labeled for tire repair only.

32 "Cove base" means a flooring trim unit, generally made of vinyl
33 or rubber, having a concave radius on one edge and a convex radius
34 on the opposite edge that is used in forming a junction between the
35 bottom wall course and the floor or to form an inside corner.

36 "Cove base installation adhesive" means any adhesive intended
37 by the manufacturer to be used for the installation of cove base or
38 wall base on a wall or vertical surface at floor level.

39 "Cyanoacrylate adhesive" means any adhesive with a cyanoacrylate
40 content of at least 95% by weight.

41 "Department of Defense military technical data" means a
42 specification that specifies design requirements, such as materials
43 to be used, how a requirement is to be achieved, or how an item is
44 to be fabricated or constructed.

45 "Enclosed cleaning system" means a cleaner consisting of a closed
46 container with a door or top that can be opened and closed and fitted
47 with cleaning connections. A spray gun is attached to the enclosed
48 cleaning system by a connection, and solvent is pumped through the
49 gun to clean it. The cleaning solvent falls back into the cleaning
50 system's solvent reservoir for recirculation.

51 "Flexible vinyl" means non-rigid polyvinyl chloride plastic with

1 at least 5% by weight plasticizer content.

2 "Fiberglass" means a material consisting of extremely fine glass
3 fibers.

4 "Indoor floor covering installation adhesive" means any adhesive
5 intended by the manufacturer for use in the installation of wood
6 flooring, carpet, resilient tile, vinyl tile, vinyl backed carpet,
7 resilient sheet and roll or artificial grass. Adhesives used to
8 install ceramic tile and perimeter bonded sheet flooring with vinyl
9 backing onto a non-porous substrate, such as flexible vinyl, are
10 excluded from this category.

11 "Laminate" means a product made by bonding together two or more
12 layers of material.

13 "Marine deck sealant" or "marine deck sealant primer" means any
14 sealant or sealant primer labeled for application to wooden marine
15 decks.

16 "Medical equipment manufacturing" means the manufacture of
17 medical devices, such as, but not limited to, catheters, heart valves,
18 blood cardioplegia machines, tracheostomy tubes, blood oxygenators,
19 and cardiatory reservoirs.

20 "Metal to urethane/rubber molding or casting adhesive" means
21 any adhesive intended by the manufacturer to bond metal to high density
22 or elastomeric urethane or molded rubber materials, in heater molding
23 or casting processes, to fabricate products such as rollers for
24 computer printers or other paper handling equipment.

25 "Multipurpose construction adhesive" means any adhesive intended
26 by the manufacturer for use in the installation or repair of various
27 construction materials, including but not limited to drywall,
28 subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile
29 and acoustical tile.

30 "Nonmembrane roof installation/repair adhesive" means any
31 adhesive intended by the manufacturer for use in the installation
32 or repair of nonmembrane roofs and that is not intended for the
33 installation of prefabricated single-ply flexible roofing membrane,
34 including, but not limited to, plastic or asphalt roof cement, asphalt
35 roof coating and cold application cement.

36 "Outdoor floor covering installation adhesive" means any
37 adhesive intended by the manufacturer for use in the installation
38 of floor covering that is not in an enclosure and that is exposed
39 to ambient weather conditions during normal use.

40 "Panel installation" means the installation of plywood,
41 pre-decorated hardboard (or tileboard), fiberglass reinforced
42 plastic, and similar pre-decorated or non-decorated panels to studs
43 or solid surfaces using an adhesive formulated for that purpose.

44 "Perimeter bonded sheet flooring installation" means the
45 installation of sheet flooring with vinyl backing onto a nonporous
46 substrate using an adhesive designed to be applied only to a strip
47 of up to four inches wide around the perimeter of the sheet flooring.

48 "Plastic cement welding adhesive" means any adhesive intended
49 by the manufacturer for use to dissolve the surface of plastic to
50 form a bond between mating surfaces.

51 "Plastic cement welding adhesive primer" means any primer

1 intended by the manufacturer for use to prepare plastic substrates
2 prior to bonding or welding.

3 "Plasticizer" means a material such as a high boiling point
4 organic solvent that is incorporated into a vinyl to increase its
5 flexibility, workability, or distensibility, as determined by ASTM
6 Method E-260-96.

7 "Polyvinyl chloride (PVC) plastic" means a polymer of the
8 chlorinated vinyl monomer that contains 57% chlorine.

9 "Polyvinyl chloride welding adhesive" or "PVC welding adhesive"
10 means any adhesive intended by the manufacturer for use in the welding
11 of PVC plastic pipe.

12 "Porous material" means a substance that has tiny openings, often
13 microscopic, in which fluids may be absorbed or discharged, including,
14 but not limited to, wood, paper and corrugated paperboard.

15 "Roadway sealant" means any sealant intended by the manufacturer
16 for application to public streets, highways and other surfaces,
17 including but not limited to curbs, berms, driveways and parking lots.

18 "Rubber" means any natural or manmade rubber substrate, including
19 styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber,
20 nitrile rubber, chlorosulfonated polyethylene and ethylene propylene
21 diene terpolymer.

22 "Sealant primer" means any product intended by the manufacturer
23 for application to a substrate, prior to the application of a sealant,
24 to enhance the bonding surface.

25 "Sealant" means any material with adhesive properties, including
26 sealant primers and caulks, that is formulated primarily to fill,
27 seal, waterproof or weatherproof gaps or joints between two surfaces.

28 "Sheet-applied rubber installation" means the process of applying
29 sheet rubber liners by hand to metal or plastic substrates to protect
30 the underlying substrate from corrosion or abrasion. These
31 operations also include laminating sheet rubber to fabric by hand.

32 "Single-ply roof membrane" means a prefabricated single sheet
33 of rubber, normally ethylene-propylenediene terpolymer, that is field
34 applied to a building roof using one layer of membrane material.

35 "Single-ply roof membrane installation and repair adhesive"
36 means any adhesive labeled for use in the installation or repair of
37 single-ply roof membrane.

38 (1) Installation includes, as a minimum, attaching the edge
39 of the membrane to the edge of the roof and applying flashings to
40 vents, pipes and ducts that protrude through the membrane.

41 (2) Repair includes gluing the edges of torn membrane together,
42 attaching a patch over a hole and reapplying flashings to vents, pipes
43 or ducts installed through the membrane.

44 "Single-ply roof membrane adhesive primer" means any primer
45 labeled for use to clean and promote adhesion of the single-ply roof
46 membrane seams or splices prior to bonding.

47 "Single-ply roof membrane sealant" means any sealant labeled
48 for application to single-ply roof membrane.

49 "Structural glazing adhesive" means any adhesive intended by
50 the manufacturer to apply glass, ceramic, metal, stone or composite
51 panels to exterior building frames.

1 "Subfloor installation" means the installation of subflooring
2 material over floor joists, including the construction of any load
3 bearing joists. Subflooring is covered by a finish surface material.

4 "Surface preparation solvent" means a solvent used to remove
5 dirt, oil and other contaminants from a substrate prior to the
6 application of a primer, adhesive or sealant.

7 "Thin metal laminating adhesive" means any adhesive intended
8 by the manufacturer for use in bonding multiple layers of metal to
9 metal or metal to plastic in the production of electronic or magnetic
10 components in which the thickness of the bond line is less than 0.25
11 mils.

12 "Tire repair" means a process that includes expanding a hole,
13 tear, fissure or blemish in a tire casing by grinding or gouging,
14 applying adhesive, and filling the hole or crevice with rubber.

15 "Traffic marking tape" means preformed reflective film intended
16 by the manufacturer for application to public streets, highways and
17 other surfaces, including curbs, berms, driveways and parking lots.

18 "Traffic marking tape adhesive primer" means any primer intended
19 by the manufacturer for application to surfaces prior to installation
20 of traffic marking tape.

21 "Undersea-based weapons systems components" means the
22 fabrication of parts, assembly of parts or completed units of any
23 portion of a missile launching system used on undersea ships.

24 "Waterproof resorcinol glue" means a two-part
25 resorcinol-resin-based adhesive designed for applications where the
26 bond line must be resistant to conditions of continuous immersion
27 in fresh or salt water.

28
29 **R307-342-5. [~~Emission Standards~~]VOC Content Limits.**

30 (1) Beginning September 1, 2014, no person shall manufacturer
31 any adhesive, sealant, adhesive primer or sealant primer with a VOC
32 content in excess of the limits in Table 1.

33 (2) Beginning September 1, 2014, no person shall sell supply
34 or offer for sale any adhesive, sealant, adhesive primer or sealant
35 primer with a VOC content in excess of the limits in Table 1 and that
36 was manufactured on or after September 1, 2014.

37 (3) Beginning September 1, 2014, no person shall apply any
38 adhesive, sealant, adhesive primer or sealant primer with a VOC content
39 in excess of the limits in Table 1 unless that person uses an add-on
40 control device as specified in R307-342-8 or unless the adhesive,
41 sealant, adhesive primer or sealant primer was manufactured before
42 September 1, 2014.

43 (4) The VOC content limits in Table 1 for adhesives applied
44 to particular substrates shall apply as follows:

45 (a) If a person uses an adhesive or sealant subject to a specific
46 VOC content limit for such adhesive or sealant in Table 1, such specific
47 limit is applicable rather than an adhesive-to-substrate limit; and

48 (b) If an adhesive is used to bond dissimilar substrates
49 together, the applicable substrate category with the highest VOC
50 content shall be the limit for such use.

51

TABLE 1

VOC Content Limits for Adhesives, Sealants, Adhesive Primers, Sealant Primers and Adhesives Applied to Particular Substrates (minus water and exempt compounds (compounds that are not defined as VOC), as applied

Adhesive, Sealant, Adhesive Primer Category	VOC Content Limit (grams VOC/liter)
---	-------------------------------------

Adhesives

ABS welding	400
Ceramic tile installation	130
Computer diskette jacket manufacturing	850
Contact bond	250
Cove base installation	150
CPVC welding	490
Indoor floor covering installation	150
Metal to urethane/rubber molding or casting	850
Multipurpose construction	200
Nonmembrane roof installation/repair	300
Other plastic cement welding	510
Outdoor floor covering installation	250
PVC welding	510
Single-ply roof membrane installation/repair	250
Structural glazing	100
Thin metal laminating	780
Tire retread	100

1		
2	Perimeter bonded sheet vinyl	660
3	flooring installation	
4		
5	Waterproof resorcinol glue	170
6		
7	Sheet-applied rubber	850
8	installation	
9		
10	Sealants	
11		
12	Architectural	250
13		
14	Marine deck	760
15		
16	Nonmembrane roof	300
17	installation/repair	
18		
19	Roadway	250
20	Single-ply roof membrane	450
21		
22	Other	420
23		
24	Adhesive Primers	
25		
26	Automotive glass	700
27		
28	Plastic cement welding	650
29		
30	Single-ply roof membrane	250
31		
32	Traffic marking tape	150
33		
34	Other	250
35		
36	Sealant Primers	
37		
38	Non-porous architectural	250
39		
40	Porous architectural	775
41		
42	Marine deck	760
43		
44	Other	750
45		
46	Adhesives Applied to the Listed Substrate	
47		
48	Flexible vinyl	250
49		
50	Fiberglass	200
51		

1	Metal	30
2		
3	Porous material	120
4		
5	Rubber	250
6		
7	Other substrates	250

8
9 **R307-342-6. Application Equipment.**

10 (1) An operator shall only use the following equipment to apply
11 adhesives and sealants:

- 12 (a) Electrostatic application;
- 13 (b) Flow coater;
- 14 (c) Roll coater;
- 15 (d) Dip coater;
- 16 (e) Hand application method;
- 17 (f) Airless spray and air-assisted airless spray;
- 18 (g) High volume, low pressure spray equipment operated in
19 accordance with the manufacturers specifications; or
- 20 (h) Other methods having a minimum 65% transfer efficiency.

21 (2) Removal of an adhesive, sealant, adhesive primer or sealant
22 primer from the parts of spray application equipment shall be performed
23 as follows:

- 24 (a) In an enclosed cleaning system;
- 25 (b) Using a solvent with a VOC content less than or equal to
26 70 grams of VOC per liter of material; or
- 27 (c) Parts containing dried adhesive may be soaked in a solvent
28 if the composite vapor pressure of the solvent, excluding water and
29 exempt compounds, is less than or equal to 9.5 mm Hg at 20 degrees
30 Celsius and the parts and solvent are in a closed container that remains
31 closed except when adding parts to or removing parts from the
32 container.

33
34 **R307-342-7. Administrative Requirements.**

35 (1) Each person that manufactures adhesives, sealants, and
36 adhesive primers subject to this rule shall maintain records
37 demonstrating compliance.

38 (2) Commercial and industrial operations that are not exempt
39 under R307-342-3 shall maintain records demonstrating compliance with
40 this rule, including:

- 41 (a) A list of each adhesive, sealant, adhesive primer, sealant
42 primer cleanup solvent and surface preparation solvent in use and
43 in storage;
- 44 (b) A material data sheet for each adhesive, sealant, adhesive
45 primer, sealant primer, cleanup solvent and surface preparation
46 solvent;
- 47 (c) A list of catalysts, reducers or other components used and
48 the mix ratio;
- 49 (d) The VOC content or vapor pressure, as applied; and
- 50 (e) The monthly volume of each adhesive, sealant, adhesive
51 primer, sealant primer cleanup solvent and surface preparation solvent

1 used.

2 (2) Except as provided in R307-342-6(2), no person shall use
3 materials containing VOCs for the removal of adhesives, sealants,
4 or adhesive or sealant primers from surfaces, other than spray
5 application equipment, unless the composite vapor pressure of the
6 solvent used is less than 45 mm Hg at 20 degrees Celsius.

7
8 **R307-342-8. Optional Add-On Controls Systems Operations.**

9 [~~—(1)— VOC emissions from the manufacturer or use of all adhesives,
10 sealants, adhesive primers or sealant primers subject to this rule
11 shall be reduced by an overall capture and control efficiency of at
12 least 85% by weight.~~

13 ~~—(2)— The owner or operator of an emission control system shall
14 provide documentation that the emissions control system will attain
15 the requirements of R307-342-8.~~

16 ~~—(3)— The owner or operator of an emission control system shall
17 maintain for a minimum of two years records of operating and
18 maintenance sufficient to demonstrate that the equipment is being
19 operated and maintained in accordance with the manufacturer
20 recommendations.]~~

21 (1) The owner or operator shall install and maintain an
22 incinerator, carbon adsorption, or any other add-on emission control
23 system, provided that the emission control system is operated and
24 maintained in accordance with the manufacturer recommendations in
25 order to maintain at least 85% capture and control efficiency.
26 Determination of overall capture and control efficiency shall be
27 determined using EPA approved methods, as follows.

28 (a) The capture efficiency of a VOC emission control system's
29 VOC collection device shall be determined according to EPA's
30 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
31 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

32 (b) The control efficiency of a VOC emission control system's
33 VOC control device shall be determined using test methods in Appendices
34 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
35 gaseous organic concentrations, or emissions of exempt compounds,
36 as applicable.

37 (c) An alternative test method may be substituted for the
38 preceding test methods after review and approval by the EPA
39 Administrator.

40 (2) The owner or operator of a control system shall provide
41 documentation that the emission control system will attain the
42 requirements of R307-342-8(1).

43 (3) The owner or operator shall maintain records of key system
44 parameters necessary to ensure compliance with R307-342-8. Key system
45 parameters may include, but are not limited to, temperature, pressure
46 and flow rates. Operator inspection schedule, monitoring,
47 recordkeeping, and key parameters shall be in accordance with the
48 manufacturer's recommendations, and as required to demonstrate
49 operations are providing continuous emission reduction from the source
50 during all periods that the operations cause emissions from the source.

51 (4) The owner or operator shall maintain for a minimum of two

1 years records of operating and maintenance sufficient to demonstrate
2 that the equipment is being operated and maintained in accordance
3 with the manufacturer recommendations.

4
5
6 **R307-342-9. Container Labeling.**

7 Each manufacturer of an adhesive, sealant, adhesive primer or
8 sealant primer subject to this rule shall display the following
9 information on the product container or label:

10 (1) A statement of the manufacture's recommendation regarding
11 thinning, reducing, or mixing of the product.

12 (a) R307-342-9 does not apply to the thinning of a product with
13 water.

14 (b) If the thinning of the product prior to use is not necessary,
15 the recommendation shall specify that the product is to be applied
16 without thinning.

17 (2) The maximum or the actual VOC content of the product in
18 accordance with Table 1, as supplied, displayed in grams of VOC per
19 liter of product; and

20 (3) The maximum or the actual VOC content of the product in
21 accordance with Table 1, which includes the manufacture's maximum
22 recommendation for thinning, as applied, displayed in grams of VOC
23 per liter of product.

24
25 **KEY: air pollution, adhesives, sealants, primers**

26 **Date of Enactment or Last Substantive Amendment: [~~August 1, 2013~~2014**

27 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-343. Emissions Standards for Wood Furniture Manufacturing**
3 **Operations.**

4 **R307-343-1. Purpose.**

5 The purpose of R307-343 is to limit volatile organic compound
6 (VOC) emissions from wood furniture manufacturing.

7
8 **R307-343-2. Applicability.**

9 R307-343 applies to wood furniture manufacturing operations,
10 including related cleaning activities, that have the potential to
11 emit 2.7 tons or more per year of VOCs and that are located in Box
12 Elder, Cache, Davis, Salt Lake, Utah, Tooele, and Weber counties.

13
14 **R307-343-3. Definitions.**

15 The following additional definitions apply to R307-343:

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

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

22 "Coating" means a protective, decorative, or functional material
23 applied in a thin layer to a surface. Such materials may include
24 paints, topcoats, varnishes, sealers, stains, washcoats, basecoats,
25 inks, and temporary protective coatings.

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

29 "Control system" means the combination of capture and control
30 devices used to reduce emissions to the atmosphere.

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

37 "Finishing material" means a coating used in the wood furniture
38 industry, including basecoats, stains, washcoats, sealers, and
39 topcoats.

40 "Finishing Operation" means those activities in which a finishing
41 material is applied to a substrate and is subsequently air-dried,
42 cured in an oven, or cured by radiation.

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

46 "Solids" means the part of the coating that remains after the
47 coating is dried or cured; solids content is determined using data
48 from EPA Method 24.

49 "Stain" means any color coat having a solids content by weight
50 of no more than 8.0% that is applied in single or multiple coats
51 directly to the substrate, including nongrain raising stains,
52 equalizer stains, sap stains, body stains, no-wipe stains, penetrating

1 stains, and toners.

2 "Topcoat" means the last film-building finishing material
3 applied in a finishing system. Non-permanent final finishes are not
4 topcoats.

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

7 "Washcoat" means a transparent special purpose coating having
8 a solids content by weight of 12.0% or less that is applied over initial
9 stains to protect and control color and to stiffen the wood fibers
10 in order to aid sanding.

11 "Washoff operations" means those operations in which organic
12 solvent is used to remove coating from a substrate.

13 "Wood furniture" means any product made of wood, a wood product
14 such as rattan or wicker, or an engineered wood product such as
15 particleboard that is manufactured under any of the following standard
16 industrial classification codes: 2434, 2511, 2512, 2517, 2519, 2521,
17 2531, 2541, 2599, or 5712.

18 "Wood furniture manufacturing operations" means the finishing,
19 cleaning, and washoff operations associated with the production of
20 wood furniture or wood furniture components.

21
22 **R307-343-4. [~~Emission Standards~~]VOC Content Limits.**

23 (1) Each affected source subject to R307-343 shall limit VOC
24 emissions by:

25 (a) Using the compliant coating method as described in
26 R307-343-4(1)(a)(i) or using the control system method as described
27 in R307-343-4(1)(a)(ii).

28 (i) Compliant coating method is the use of the topcoats or
29 topcoat/sealer combinations in Table 1:

30
31 TABLE 1

32
33 Compliant Coating VOC Limitations

34 (values in pounds VOC per pound of solids, minus water and
35 exempt solvents (compounds not classified as VOC), as applied)

36
37

COATING CATEGORY	VOC Content Limitations	
	Effective Through December 31, 2014	Effective Beginning January 1, 2015
Topcoats	0.8	0.4
Topcoat/Sealer combination		
Topcoat	1.8	0.9
Sealer	1.9	0.9
Acid-cured, alkyd amino topcoat/sealer combinations		

49
50
51
52

1	Acid-cured, alkyd amino topcoat	2.0	1.0
2			
3	Acid-cured, alkyd amino vinyl	2.3	1.2
4	Sealer		

5
6 (ii) Control system method is the use of a VOC control system
7 achieving a [90]85% or greater emissions reduction.

8 (b) Using strippable spray booth coatings that contain no
9 greater than 0.8 pounds VOC per pound solids as applied.

10 (c) Using closed containers for the storing of finishing,
11 gluing, cleaning and washoff materials.

12
13 **R307-343-5. Application Equipment Requirements.**

14 (1) All coatings shall be applied using equipment having a
15 minimum 65% transfer efficiency, except as allowed under R307-343-5(3)
16 and operated according to the equipment manufacturer specifications.
17 Equipment meeting the transfer efficiency requirement includes:

18 (a) Brush, dip, or roll coating;

19 (b) Electrostatic application; and

20 (c) High volume, low pressure (HVLV) spray equipment.

21 (2) Other coating application methods that achieve transfer
22 efficiency equivalent to HVLV or electrostatic spray application
23 methods may be used.

24 (3) Conventional air spray methods may be used under the
25 following circumstances:

26 (a) To apply finishing materials that have no greater than 1.0
27 pound of VOC per pound of solids, as applied;

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

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

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

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

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

39 (e) When the conventional air gun is used to apply finishing
40 materials and the cumulative total usage of that finishing material
41 is no more than 10% of the total gallons of finishing material used
42 during the calendar year; or

43 (f) When the conventional air gun is used to apply stain on
44 a part for which it is technically or economically infeasible to use
45 any other spray application technology. The following criteria shall
46 be used, either independently or in combination, to support the
47 affected source's claim of technical or economic infeasibility:

48 (i) The production speed is too high or the part shape is too
49 complex for one operator to coat the part and the application station
50 is not large enough to accommodate an additional operator; or

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

1
2 **R307-343-6. [~~Control Systems Operations~~]Add-on Controls Systems**
3 **Operations.**

4 [~~_____ (1) Emission control systems shall be operated and maintained~~
5 ~~in accordance with the manufacturer recommendations in order to~~
6 ~~maintain 90% or greater continuous emission reduction.~~

7 ~~_____ (2) The owner or operator of a control device shall provide~~
8 ~~documentation that the emission control system will attain the~~
9 ~~requirements of R307-343-4 and R307-343-5.~~

10 ~~_____ (3) The owner or operator shall maintain for a minimum of two~~
11 ~~years records of operating and maintenance sufficient to demonstrate~~
12 ~~that the equipment is being operated and maintained in accordance~~
13 ~~with the manufacturer recommendations.]~~

14 (1) The owner or operator shall install and maintain an
15 incinerator, carbon adsorption, or any other add-on emission control
16 system, provided that the emission control system is operated and
17 maintained in accordance with the manufacturer recommendations in
18 order to maintain at least 85% capture and control efficiency.
19 Determination of overall capture and control efficiency shall be
20 determined using EPA approved methods, as follows.

21 (a) The capture efficiency of a VOC emission control system's
22 VOC collection device shall be determined according to EPA's
23 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
24 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

25 (b) The control efficiency of a VOC emission control system's
26 VOC control device shall be determined using test methods in Appendices
27 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
28 gaseous organic concentrations, or emissions of exempt compounds,
29 as applicable.

30 (c) An alternative test method may be substituted for the
31 preceding test methods after review and approval by the EPA
32 Administrator.

33 (2) The owner or operator of a control system shall provide
34 documentation that the emission control system will attain the
35 requirements of R307-343-6(1).

36 (3) The owner or operator shall maintain records of key system
37 parameters necessary to ensure compliance with R307-343-6. Key system
38 parameters may include, but are not limited to, temperature, pressure
39 and flow rates. Operator inspection schedule, monitoring,
40 recordkeeping, and key parameters shall be in accordance with the
41 manufacturer's recommendations, and as required to demonstrate
42 operations are providing continuous emission reduction from the source
43 during all periods that the operations cause emissions from the source.

44 (4) The owner or operator shall maintain for a minimum of two
45 years records of operating and maintenance sufficient to demonstrate
46 that the equipment is being operated and maintained in accordance
47 with the manufacturer recommendations.

48
49
50 **R307-343-7. Work Practices and Recordkeeping.**

51 (1) Control techniques and work practices shall be implemented
52 at all times to reduce VOC emissions from fugitive type sources.

1 Control techniques and work practices shall include:

2 (a) Storing all VOC-containing coatings, thinners, and
3 coating-related waste materials in closed containers;

4 (b) Ensuring that mixing and storage containers used for
5 VOC-containing coatings, thinners, and coating-related waste material
6 are kept closed at all times except when depositing or removing these
7 materials;

8 (c) Minimizing spills of VOC-containing coatings, thinners,
9 and coating-related waste materials; and

10 (d) Conveying VOC-containing coatings, thinners, and
11 coating-related waste materials from one location to another in closed
12 containers or pipes.

13 (2) The work practices for cleaning materials shall be
14 implemented at all times to reduce VOC emissions from fugitive type
15 sources. The work practices shall include:

16 (a) Storing all VOC-containing cleaning materials and used shop
17 towels in closed containers;

18 (b) Ensuring that storage containers used for VOC-containing
19 cleaning materials are kept closed at all times except when depositing
20 or removing these materials;

21 (c) Minimizing spills of VOC-containing cleaning materials;

22 (d) Conveying VOC-containing cleaning materials from one
23 location to another in closed containers or pipes; and

24 (e) Minimizing VOC emissions from cleaning of application,
25 storage, mixing, and conveying equipment by ensuring that equipment
26 cleaning is performed without atomizing the cleaning solvent and all
27 spent solvent is captured in closed containers.

28 (3) All persons shall perform solvent cleaning operations with
29 cleaning material having VOC content of 0.21 pounds per gallon or
30 less.

31 (4) For each calendar year, all sources subject to R307-343
32 shall maintain records demonstrating compliance with ~~[all~~
33 ~~provisions of]~~R307-343-4, R307-343-5 and R307-343-7.

34 (a) Records shall include, but shall not be limited to,
35 inventory and product data sheets for all coatings and solvents subject
36 to R307-343.

37 (b) These records shall be made available to the director upon
38 request.

39
40 ~~[R307-343-8. Compliance Schedule.~~

41 ~~_____ (1) Sources in Salt Lake and Davis counties that have the~~
42 ~~potential to emit between 2.7 and 24 tons of VOC per year shall be~~
43 ~~in compliance by September 1, 2013.~~

44 ~~_____ (2) Sources in Salt Lake and Davis counties that have the~~
45 ~~potential to emit 25 tons or more of VOC per year shall be in compliance~~
46 ~~upon the effective date of this rule.~~

47 ~~_____ (3) All sources in Box Elder, Cache, Tooele, Utah and Weber~~
48 ~~counties shall be in compliance with this rule by January 1, 2014.]~~

49
50 **KEY: air pollution, wood furniture, coatings**

51 **Date of Enactment or Last Substantive Amendment: [May 1, 2013] 2014**

52 **Notice of Continuation: February 1, 2012**

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

1 **R307. Environmental Quality, Air Quality.**

2 **R307-344. Paper, Film, and Foil Coatings.**

3 **R307-344-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from roll, knife, and rotogravure coaters and drying
6 ovens of paper, film, and foil coating operations.

7
8 **R307-344-2. Applicability.**

9 [~~(1)~~]R307-344 applies to sources located in Box Elder, Cache,
10 Davis, Salt Lake, Tooele, Utah and Weber counties that have the
11 potential to emit 2.7 tons per year or more of VOC, including related
12 cleaning activities.

13 [~~(2) In Box Elder and Tooele counties, R307-344 applies to the~~
14 ~~following sources:~~

15 ~~_____ (a) Existing sources as of February 1, 2013, with the potential~~
16 ~~to emit 5 tons per year or more of VOC, including related cleaning~~
17 ~~activities; and~~

18 ~~_____ (b) New sources as of February 1, 2013, that have the potential~~
19 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
20 ~~activities.]~~

21
22 **R307-344-3. Definitions.**

23 The following additional definitions apply to R307-344:

24 "Coating" means a protective, functional, or decorative film
25 applied in a thin layer to a surface. This term often applies to
26 paints such as lacquers or enamels. It is also used to refer to films
27 applied to paper, plastics, or foil.

28 "Foil coating" means a coating applied in a web coating process
29 on any foil substrate other than paper or fabric, including, but not
30 limited to, typewriter ribbons, photographic film, magnetic tape,
31 and metal foil gift wrap, but excluding coatings applied to packaging
32 used exclusively for food and health care products for human and animal
33 consumption.

34 "Knife coating" means the application of a coating material to
35 a substrate by means of drawing the substrate beneath a blade that
36 spreads the coating evenly over the width of the substrate.

37 "Paper coating" means uniform distribution of coatings put on
38 paper, film, foils and pressure sensitive tapes regardless of
39 substrate. Related web coating processes on plastic film and
40 decorative coatings on metal foil are included in this definition.
41 Paper coating covers saturation operations as well as coating
42 operations.

43 "Roll coating" means the application of a coating material to
44 a substrate by means of hard rubber or steel rolls.

45 "Roll printing" means the application of words, designs and
46 pictures to a substrate usually by means of a series of hard rubber
47 or steel rolls each with only partial coverage.

48 "Rotogravure coating" means the application of a uniform layer
49 of material across the entire width of the web to substrate by means
50 of a roll coating technique in which the pattern to be applied is
51 etched on the coating roll. The coating material is picked up in
52 these recessed areas and is transferred to the substrate.

1 "Saturation" means dipping the web into a bath.

2 "Web" means a continuous sheet of substrate.

3

4 **R307-344-4. [~~Emission Standards~~]VOC Content Limits.**

5 Each owner or operator shall not apply coatings with a VOC content
6 in excess of the amounts specified in Table 1 or shall use an add-on
7 control device as specified in R307-344-6.

8

9

TABLE 1

10

11 Paper, Film, and Foil Coating Limitations
12 (values in pounds VOC per pound of coating, minus water and
13 exempt solvents (compounds not classified as VOC), as applied)

14

15 COATING CATEGORY VOC EMISSION RATES

16

17 Paper, film and foil 0.08

18

19 Pressure sensitive tape
20 and label 0.067

21

22 **R307-344-5. Work Practices and Recordkeeping.**

23 (1) Control techniques and work practices are to be implemented
24 at all times to reduce VOC emissions [~~from fugitive type sources~~].

25 Control techniques and work practices include:

- 26 (a) Using tight fitting covers for open tanks;
27 (b) Using covered containers for solvent wiping cloths;
28 (c) Using collection hoods for areas where solvent is used for
29 cleanup;

30 (d) Minimizing spills of VOC-containing cleaning materials;

31 (e) Conveying VOC-containing materials from one location to
32 another in closed containers or pipes;

33 (f) Cleaning spray guns in enclosed systems; and

34 (g) Using recycled solvents for cleaning.

35 (2) All sources subject to R307-344 shall maintain records
36 demonstrating compliance with [~~all provisions of~~]R307-344-4 and
37 R307-344-5[~~on an annual basis~~].

38 (a) Records shall include, but not limited to, inventory and
39 product data sheets of all coatings and solvents subject to R307-344.

40 (b) These records shall be available to the director upon
41 request.

42 (3) No person shall apply coatings unless these materials are
43 applied with equipment operated according to the manufacturer's
44 specifications, and by the use of one of the following methods:

45 (a) Flow coater;

46 (b) Roll coater;

47 (c) Dip coater;

48 (d) Foam coater;

49 (e) Die coater;

50 (f) Hand application methods;

51 (g) High-volume, low pressure (HVLV) spray; or

52 (h) Other application method capable of achieving at least 65%

1 transfer efficiency, as certified by the manufacturer.

2 (4) All persons shall perform solvent cleaning operations with
3 cleaning materials having VOC content of 0.21 pounds per gallon or
4 less.

5
6 **R307-344-6. [~~Optional~~]Add-On Controls Systems Operations.**

7 [~~—(1)—The owner or operator may install and maintain an
8 incinerator, carbon adsorption, or any other add-on emission control
9 device, provided that the emission control device will attain at least
10 90% efficiency performance.~~

11 ~~—(2)—The owner or operator of a control device shall provide
12 documentation that the emission control system will attain the
13 requirements of R307-344-6.~~

14 ~~—(3)—Emission control systems shall be operated and maintained
15 in accordance with the manufacturer recommendations. The owner or
16 operator shall maintain for a minimum of two years records of operating
17 and maintenance sufficient to demonstrate that the equipment is being
18 operated and maintained in accordance with the manufacturer
19 recommendations.]~~

20 (1) The owner or operator shall install and maintain an
21 incinerator, carbon adsorption, or any other add-on emission control
22 system, provided that the emission control system is operated and
23 maintained in accordance with the manufacturer recommendations in
24 order to maintain at least 90% capture and control efficiency.
25 Determination of overall capture and control efficiency shall be
26 determined using EPA approved methods, as follows.

27 (a) The capture efficiency of a VOC emission control system's
28 VOC collection device shall be determined according to EPA's
29 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
30 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

31 (b) The control efficiency of a VOC emission control system's
32 VOC control device shall be determined using test methods in Appendices
33 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
34 gaseous organic concentrations, or emissions of exempt compounds,
35 as applicable.

36 (c) An alternative test method may be substituted for the
37 preceding test methods after review and approval by the EPA
38 Administrator.

39 (2) The owner or operator of a control system shall provide
40 documentation that the emission control system will attain the
41 requirements of R307-344-6(1).

42 (3) The owner or operator shall maintain records of key system
43 parameters necessary to ensure compliance with R307-344-6. Key system
44 parameters may include, but are not limited to, temperature, pressure
45 and flow rates. Operator inspection schedule, monitoring,
46 recordkeeping, and key parameters shall be in accordance with the
47 manufacturer's recommendations, and as required to demonstrate
48 operations are providing continuous emission reduction from the source
49 during all periods that the operations cause emissions from the source.

50 (4) The owner or operator shall maintain for a minimum of two
51 years records of operating and maintenance sufficient to demonstrate
52 that the equipment is being operated and maintained in accordance

1 with the manufacturer recommendations.

2
3 ~~[R307-344-7. Compliance Schedule.~~

4 ~~——(1) All sources in Davis and Salt Lake counties are subject~~
5 ~~to this rule upon the effective date.~~

6 ~~——(2) Sources in Box Elder, Cache, Tooele, Utah and Weber counties~~
7 ~~shall be in compliance with the rule by January 1, 2014.]~~

8
9 **KEY: VOC emission, paper coating, film coating, foil coating**

10 **Date of Enactment or Last Substantive Amendment: [February 1,**
11 **2013]2014**

12 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-345. Fabric and Vinyl Coatings.**

3 **R307-345-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from fabric and vinyl coating operations, which use
6 roll, knife, or rotogravure coaters and drying ovens.

7
8 **R307-345-2. Applicability.**

9 [~~(1)~~]R307-345 applies to sources located in Box Elder, Cache,
10 Davis, Salt Lake, Tooele, Utah and Weber counties that have the
11 potential to emit 2.7 tons per year or more of VOC, including related
12 cleaning activities.

13 [~~(2) In Box Elder and Tooele counties, R307-345 applies to the~~
14 ~~following sources:~~

15 ~~_____ (a) Existing sources as of February 1, 2013 with the potential~~
16 ~~to emit 5 tons per year or more of VOC, including related cleaning~~
17 ~~activities; and~~

18 ~~_____ (b) New sources as of February 1, 2013 that have the potential~~
19 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
20 ~~activities.]~~

21
22 **R307-345-3. Definitions.**

23 The following additional definitions apply to R307-345:

24 "Coating" means a protective, functional, or decorative film
25 applied in a thin layer to a surface.

26 "Fabric coating" means the coating or saturation of a textile
27 substrate with a knife, roll or rotogravure coater to impart
28 characteristics that are not initially present, such as strength,
29 stability, water or acid repellency, or appearance. Fabric coatings
30 can include, but are not limited to, industrial and electrical tapes,
31 tie cord, utility meter seals, imitation leathers, tarpaulins, shoe
32 material, and upholstery fabrics.

33 "Knife coating" means the application of a coating material to
34 a substrate by means of drawing the substrate beneath a blade that
35 spreads the coating evenly over the width of the substrate.

36 "Roller coating" the coating material is applied to the moving
37 fabric, in a direction opposite to the movement of the substrate,
38 by hard rubber or steel rolls.

39 "Rotogravure coating" means the application of a uniform layer
40 of material across the entire width of the web to substrate by means
41 of a roll coating technique in which the pattern to be applied is
42 etched on the coating roll. The coating material is picked up in
43 these recessed areas and is transferred to the substrate.

44 "Vinyl coating" means applying a decorative or protective top
45 coat, or printing on vinyl coated fabric or vinyl sheets.

46
47 **R307-345-4. [~~Emission Standards~~]VOC Content Limits.**

48 (1) Each owner or operator shall not apply coatings with a VOC
49 content in excess of the amounts specified in Table 1 or shall use
50 an add-on control device as specified in R307-345-6.

51
52 TABLE 1

1
2 Fabric and Vinyl Coating Limitations
3 (values in pounds VOC per gallon of coating, minus water and
4 exempt solvents (compounds not classified as VOC), as applied)
5

6 COATING CATEGOTORY	VOC[EMISSION RATES	VOC [EMISSION RATES
	<u>CONTENT LIMITS</u>	<u>CONTENT LIMITS</u>
	Effective Through	Effective Beginning
	December 31, 2014	January 1, 2015
10 Fabric	2.9	2.2
12 Vinyl	3.8	2.2

13
14 (2) Organosol and plastisol coatings shall not be used to bubble
15 emissions from vinyl printing and top coating.
16

17 **R307-345-5. Work Practices and Recordkeeping.**

18 (1) Control techniques and work practices are to be implemented
19 at all times to reduce VOC emissions[~~from fugitive type sources~~].

20 Control techniques and work practices include:

- 21 (a) Tight fitting covers for open tanks or drums;
- 22 (b) Covered containers for solvent wiping cloths;
- 23 (c) Collection hoods for areas where solvent is used for
24 cleanup;
- 25 (d) Covered mixing tanks; and
- 26 (e) Covered hoods and oven routed to add-on control devices,
27 which may include, but are not limited to, after burners, thermal
28 incinerators, catalytic oxidation, or carbon adsorption.

29 (2) No person shall apply any coating unless the coating
30 application method achieves a demonstrated 65% transfer efficiency.

31 The following applications achieve a minimum of 65% transfer
32 efficiency and must be operated in accordance with the manufacturers
33 specifications:

- 34 (a) Foam coat;
- 35 (b) Flow coat;
- 36 (c) Roll coat;
- 37 (d) Dip coat;
- 38 (e) Die coat;
- 39 (e) High-volume, low-pressure (HVL~~P~~) spray;
- 40 (f) Hand application methods; or
- 41 (g) Other application method capable of achieving at least 65%
42 transfer efficiency, as certified by the manufacturer.

43 (3) All persons shall perform solvent cleaning operations with
44 cleaning material having VOC content of 0.21 pounds per gallon or
45 less.

46 (4) All sources subject to R307-345 shall maintain records
47 demonstrating compliance with[~~all provisions of~~] R307-345-4 and
48 R307-345-5[~~on an annual basis~~].

49 (a) Records shall include, but not be limited to, inventory
50 and product data sheets of all coatings and solvents subject to
51 R307-345.

52 (b) These records shall be available to the director upon

1 request.

2
3 **R307-345-6. Optional Add-On Controls Systems Operations.**

4 [~~_____ (1) _____ The owner or operator may install and maintain an~~
5 ~~incinerator, carbon adsorption, or any other add-on emission control~~
6 ~~device, provided that the emission control device will attain at least~~
7 ~~90% efficiency performance.~~

8 ~~_____ (2) _____ The owner or operator of a control device shall provide~~
9 ~~documentation that the emission control system will attain the~~
10 ~~requirements of R307-345-6.~~

11 ~~_____ (3) _____ Emission control systems shall be operated and maintained~~
12 ~~in accordance with the manufacturer recommendations. The owner or~~
13 ~~operator shall maintain for a minimum of two years records of operating~~
14 ~~and maintenance sufficient to demonstrate that the equipment is being~~
15 ~~operated and maintained in accordance with the manufacturer~~
16 ~~recommendations.]~~

17 (1) The owner or operator shall install and maintain an
18 incinerator, carbon adsorption, or any other add-on emission control
19 system, provided that the emission control system is operated and
20 maintained in accordance with the manufacturer recommendations in
21 order to maintain at least 90% capture and control efficiency.
22 Determination of overall capture and control efficiency shall be
23 determined using EPA approved methods, as follows.

24 (a) The capture efficiency of a VOC emission control system's
25 VOC collection device shall be determined according to EPA's
26 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
27 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

28 (b) The control efficiency of a VOC emission control system's
29 VOC control device shall be determined using test methods in Appendices
30 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
31 gaseous organic concentrations, or emissions of exempt compounds,
32 as applicable.

33 (c) An alternative test method may be substituted for the
34 preceding test methods after review and approval by the EPA
35 Administrator.

36 (2) The owner or operator of a control system shall provide
37 documentation that the emission control system will attain the
38 requirements of R307-345-6(1).

39 (3) The owner or operator shall maintain records of key system
40 parameters necessary to ensure compliance with R307-345-6. Key system
41 parameters may include, but are not limited to, temperature, pressure
42 and flow rates. Operator inspection schedule, monitoring,
43 recordkeeping, and key parameters shall be in accordance with the
44 manufacturer's recommendations, and as required to demonstrate
45 operations are providing continuous emission reduction from the source
46 during all periods that the operations cause emissions from the source.

47 (4) The owner or operator shall maintain for a minimum of two
48 years records of operating and maintenance sufficient to demonstrate
49 that the equipment is being operated and maintained in accordance
50 with the manufacturer recommendations.

1 ~~[R307-345-7. Compliance Schedule.~~

2 ~~——(1) All sources in Davis and Salt Lake counties are subject~~
3 ~~to this rule upon the effective date.~~

4 ~~——(2) All sources within Box Elder, Cache, Tooele, Utah and Weber~~
5 ~~counties shall be in compliance with this rule by January 1, 2014.]~~

6
7 **KEY:** air pollution, emission controls, fabric coating, vinyl coating
8 **Date of Enactment or Last Substantive Amendment:** [~~February 1,~~
9 ~~2013]2014~~

10 **Authorizing, and Implemented or Interpreted Law:** 19-2-104(1)(a)

1 **R307. Environmental Quality, Air Quality.**

2 **R307-346. Metal Furniture Surface Coatings.**

3 **R307-346-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from metal furniture surface coating operations in
6 application areas, flash-off areas, and ovens of metal furniture
7 coating lines involved in prime and top-coat or single coat operations.
8

9 **R307-346-2. Applicability.**

10 [~~(1)~~]R307-346 applies to sources located in Box Elder, Cache,
11 Davis, Salt Lake, Tooele, Utah and Weber counties that have the
12 potential to emit 2.7 tons per year or more of VOC, including related
13 cleaning activities.

14 [~~(2) In Box Elder and Tooele counties, R307-346 applies to the~~
15 ~~following sources:~~

16 ~~(a) Existing sources as of February 1, 2013 with the potential~~
17 ~~to emit 5 tons per year or more of VOC, including related cleaning~~
18 ~~activities; and~~

19 ~~(b) New sources as of February 1, 2013 that have the potential~~
20 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
21 ~~activities.]~~
22

23 **R307-346-3. Exemptions.**

24 (1) The requirements of R307-346 do not apply to the following:

25 (a) Stencil coatings;

26 (b) Safety-indicating coatings;

27 (c) Solid-film lubricants;

28 (d) Electrical-insulating and thermal-conducting coatings;

29 (e) Touch-up and repair coatings; or

30 (f) Coating applications utilizing hand-held aerosol cans.
31

32 **R307-346-4. Definitions.**

33 The following additional definitions apply to R307-346:

34 "Air dried coating" means coatings that are dried by the use
35 of air or a forced warm air at temperatures up to 194 degrees
36 Fahrenheit.

37 "Application area" means the area where the coating is applied
38 by spraying, dipping, or flow coating techniques.

39 "Baked coating" means a coating that is cured at a temperature
40 at or above 194 degrees Fahrenheit.

41 "Coating" means a protective, functional, or decorative film
42 applied in a thin layer to a surface. This term applies to paints,
43 sealants, caulks, inks, adhesives, and maskants.

44 "Extreme performance coatings" means coatings designed for harsh
45 exposure or extreme environmental conditions.

46 "Maskants" means a material that protects a metal surface during
47 the etching process.

48 "Metal furniture coating" means the surface coating of any
49 furniture made of metal or any metal part that will be assembled with
50 other metal, wood fabric, plastic, or glass parts to form a furniture
51 piece.
52

1 **R307-346-5. [~~Emission Standards~~]VOC Content Limits.**

2 Each owner or operator shall not apply coatings with a VOC content
3 in excess of the amounts specified in Table 1 or shall use an add-on
4 control device as specified in R307-346-7.

5
6 TABLE 1

7
8 METAL FURNITURE SURFACE COATING VOC LIMITS

9 (values in pounds of VOC per gallon of coating, minus water and
10 exempt solvents (compounds not classified as VOC, as applied)

11

12 COATING CATEGORY	13 VOC [EMISSION RATE] <u>CONTENT LIMITS</u>	
	14 Baked	15 Air Dried
16 General, One Component	2.3	2.3
17		
18 General, Multi-Component	2.3	2.8
19		
20 Extreme High Gloss	3.0	2.8
21		
22 Extreme Performance	3.0	3.5
23		
24 Heat Resistant	3.0	3.5
25		
26 Metallic	3.5	3.5
27		
28 Pretreatment Coatings	3.5	3.5
29		
30 Solar Absorbent	3.0	3.5
31		

32 **R307-346-6. Work Practices.**

33 (1) The owner or operator shall:

34 (a) Store all VOC-containing coatings, thinners, and cleaning
35 materials in closed containers;

36 (b) Minimize spills of VOC-containing coatings, thinners, and
37 cleaning materials;

38 (c) Clean up spills immediately;

39 (d) Convey any coatings, thinners, and cleaning materials in
40 closed containers or pipes;

41 (e) Close mixing vessels that contain VOC coatings and other
42 materials except when specifically in use; and

43 (f) Minimize usage of solvents during cleaning of storage,
44 mixing, and conveying equipment.

45 (2) No person shall apply any coating unless the coating
46 application method achieves a demonstrated 65% transfer efficiency.

47 The following applications achieve a minimum of 65% transfer
48 efficiency and shall be operated in accordance with the manufacturers
49 specifications:

50 (a) Electrostatic application;

51 (b) Electrodeposition;

52 (c) Brush coat;

- 1 (d) Flow coat;
2 (e) Roll coat;
3 (f) Dip coat;
4 (g) Continuous coating;
5 (h) High-volume, low-pressure (HVL) spray; or
6 (i) Other application method capable of achieving at least 65%
7 transfer efficiency, as certified by the manufacturer.

8 (3) All persons shall perform solvent cleaning operations with
9 cleaning material having VOC content of 0.21 pounds per gallon or
10 less, unless such cleaning operations are performed within the control
11 of the emission control system of R307-346-7.

12 (4) All sources subject to R307-346 shall maintain records
13 demonstrating compliance with ~~all provisions of~~ R307-346-5 and
14 R307-346-6 ~~on an annual basis~~.

15 (a) Records shall include, but not be limited to, inventory
16 and product data sheets of all coatings and solvents subject to
17 R307-346.

18 (b) These records shall be available to the director upon
19 request.

20
21 **R307-346-7. [Optional] Add-On Controls Systems Operations.**

22 ~~_____ (1) The owner or operator may install and maintain an
23 incinerator, carbon adsorption, or any other add-on emission control
24 device, provided that the emission control device will attain at least
25 90% efficiency performance.~~

26 ~~_____ (2) The owner or operator of a control device shall provide
27 documentation that the emission control system will attain the
28 requirements of R307-346-7.~~

29 ~~_____ (3) Emission control systems shall be operated and maintained
30 in accordance with the manufacturer recommendations. The owner or
31 operator shall maintain for a minimum of two years records of operating
32 and maintenance sufficient to demonstrate that the equipment is being
33 operated and maintained in accordance with the manufacturer
34 recommendations.]~~

35 (1) The owner or operator shall install and maintain an
36 incinerator, carbon adsorption, or any other add-on emission control
37 system, provided that the emission control system is operated and
38 maintained in accordance with the manufacturer recommendations in
39 order to maintain at least 90% capture and control efficiency.
40 Determination of overall capture and control efficiency shall be
41 determined using EPA approved methods, as follows.

42 (a) The capture efficiency of a VOC emission control system's
43 VOC collection device shall be determined according to EPA's
44 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
45 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

46 (b) The control efficiency of a VOC emission control system's
47 VOC control device shall be determined using test methods in Appendices
48 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
49 gaseous organic concentrations, or emissions of exempt compounds,
50 as applicable.

51 (c) An alternative test method may be substituted for the
52 preceding test methods after review and approval by the EPA

1 Administrator.

2 (2) The owner or operator of a control system shall provide
3 documentation that the emission control system will attain the
4 requirements of R307-346-7(1).

5 (3) The owner or operator shall maintain records of key system
6 parameters necessary to ensure compliance with R307-346-7. Key system
7 parameters may include, but are not limited to, temperature, pressure
8 and flow rates. Operator inspection schedule, monitoring,
9 recordkeeping, and key parameters shall be in accordance with the
10 manufacturer's recommendations, and as required to demonstrate
11 operations are providing continuous emission reduction from the source
12 during all periods that the operations cause emissions from the source.

13 (4) The owner or operator shall maintain for a minimum of two
14 years records of operating and maintenance sufficient to demonstrate
15 that the equipment is being operated and maintained in accordance
16 with the manufacturer recommendations.

17
18
19 ~~[R307-346-8. Compliance Schedule.~~

20 ~~——(1) All sources in Davis and Salt Lake counties are subject~~
21 ~~to this rule as of the effective date.~~

22 ~~——(2) Sources in Box Elder, Cache, Utah, Tooele, and Weber~~
23 ~~counties shall be in compliance with the rule by January 1, 2014.]~~

24
25 **KEY: air pollution, emission controls, surface coating, metal**
26 **furniture**

27 **Date of Enactment or Last Substantive Amendment: [February 1,**
28 **2013]2014**

29 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-347. Large Appliance Surface Coatings.**

3 **R307-347-1. Purpose.**

4 The purpose of this rule is to reduce volatile organic compound
5 (VOC) emissions from large appliance surface coating operations.
6

7 **R307-347-2. Applicability.**

8 [~~(1)~~]R307-347 applies to sources located in Box Elder, Cache,
9 Davis, Salt Lake, Tooele, Utah and Weber counties that have the
10 potential to emit 2.7 tons per year or more of VOC, including related
11 cleaning activities.

12 [~~(2) In Box Elder and Tooele counties, R307-347 applies to the~~
13 ~~following sources:~~

14 ~~(a) Existing sources as of February 1, 2013, that have the~~
15 ~~potential to emit 5 tons per year or more of VOC, including related~~
16 ~~cleaning activities; and~~

17 ~~(b) New sources as of February 1, 2013, that have the potential~~
18 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
19 ~~activities.]~~
20

21 **R307-347-3. Exemptions.**

22 (1) The requirements of R307-347 do not apply to the following:

23 (a) Stencil coatings;

24 (b) Safety-indicating coatings;

25 (c) Solid-film lubricants;

26 (d) Electric-insulating and thermal-conducting coatings;

27 (e) Touch-up and repair coatings; or

28 (f) Coating application utilizing hand-held aerosol cans.
29

30 **R307-347-4. Definitions.**

31 The following additional definitions apply to R307-347:

32 "Air dried coating" means coatings that are dried by the use
33 of air or a forced warm air at temperatures up to 194 degrees
34 Fahrenheit.

35 "Baked coating" means a coating that is cured at a temperature
36 at or above 198 degrees Fahrenheit.

37 "Coating" means a protective, functional, or decorative film
38 applied in a thin layer to a surface. This term often applies to
39 paints such as lacquers or enamels. It is also used to refer to films
40 applied to paper, plastics, or foil.

41 "Extreme performance coatings" means coatings designed for harsh
42 exposure or extreme environmental conditions.

43 "Large appliances" means doors, cases, lids, panels, and interior
44 support parts of residential and commercial washers, dryers, ranges,
45 refrigerators, freezers, water heaters, dishwashers, trash
46 compactors, air conditioners, and other similar products.
47

48 **R307-347-5. [~~Emission Standards~~]VOC Content Limits.**

49 Each owner or operator shall not apply coatings with a VOC content
50 in excess of the amounts specified in Table 1 or shall use an add-on
51 control device as specified in R307-347-7.

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TABLE 1

Large Appliance Coating Limitations
(values in pounds VOC per gallon of coating, minus water and
exempt solvents(compounds not classified as VOC), as applied)

COATING CATEGORY	VOC [EMISSION RATES] <u>CONTENT LIMITS</u>	
	Baked	Air Dried
General, one component	2.3	2.3
General, multi-component	2.3	2.8
Extreme high gloss	3.0	2.8
Extreme performance	3.0	3.5
Heat resistance	3.0	3.5
Solar absorbent	3.0	3.5
Metallic	3.5	3.5
Pretreatment coatings	3.5	3.5

R307-347-6. Work Practices and Recordkeeping.

- (1) The owner or operator shall:
 - (a) Store all VOC-containing coatings, thinners, and cleaning materials in closed containers;
 - (b) Minimize spills of VOC-containing coatings, thinners, and cleaning materials;
 - (c) Clean up spills immediately;
 - (d) Convey any coatings, thinners, and cleaning materials in closed containers or pipes;
 - (e) Close mixing vessels that contain VOC coatings and other materials except when specifically in use; and
 - (f) Minimize usage of solvents during cleaning of storage, mixing, and conveying equipment.
- (2) All sources subject to R307-347 shall maintain records demonstrating compliance with~~[-all provisions of]~~ R307-347-5 and R307-347-6~~[-on an annual basis]~~.
- (a) Records shall include, but not be limited to, inventory and product data sheets of all coatings and solvents subject to R307-3~~[52]~~47.
- (b) These records shall be made available to the director upon request.
- (3) No person shall apply any coating unless the coating application method achieves a demonstrated 65% transfer efficiency. The following applications achieve a minimum of 65% transfer

1 efficiency and shall be operated in accordance with the manufacturers
2 specifications:

- 3 (a) Electrostatic application;
- 4 (b) Electrodeposition;
- 5 (c) Brush coat;
- 6 (d) Flow coat;
- 7 (e) Roll coat;
- 8 (f) Dip coat;
- 9 (g) High-volume, low-pressure (HVLV) spray; or
- 10 (h) Other application method capable of achieving at least 65%
11 transfer efficiency, as certified by the manufacturer.

12 (4) All persons shall perform solvent cleaning operations with
13 cleaning materials having VOC content of 0.21 pounds per gallon or
14 less.

15
16 **R307-347-7. [~~Optional~~]Add-On Controls Systems Operations.**

17 [~~—(1)—The owner or operator may install and maintain an
18 incinerator, carbon adsorption, or any other add-on emission control
19 device, provided that the emission control device will attain at least
20 90% efficiency performance.~~

21 ~~—(2)—The owner or operator of a control device shall provide
22 documentation that the emission control system will attain the
23 requirements of R307-347-7.~~

24 ~~—(3)—Emission control systems shall be operated and maintained
25 in accordance with the manufacturer recommendations. The owner or
26 operator shall maintain for a minimum of two years records of operating
27 and maintenance sufficient to demonstrate that the equipment is being
28 operated and maintained in accordance with the manufacturer
29 recommendations.]~~

30 (1) The owner or operator shall install and maintain an
31 incinerator, carbon adsorption, or any other add-on emission control
32 system, provided that the emission control system is operated and
33 maintained in accordance with the manufacturer recommendations in
34 order to maintain at least 90% capture and control efficiency.
35 Determination of overall capture and control efficiency shall be
36 determined using EPA approved methods, as follows.

37 (a) The capture efficiency of a VOC emission control system's
38 VOC collection device shall be determined according to EPA's
39 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
40 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

41 (b) The control efficiency of a VOC emission control system's
42 VOC control device shall be determined using test methods in Appendices
43 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
44 gaseous organic concentrations, or emissions of exempt compounds,
45 as applicable.

46 (c) An alternative test method may be substituted for the
47 preceding test methods after review and approval by the EPA
48 Administrator.

49 (2) The owner or operator of a control system shall provide
50 documentation that the emission control system will attain the
51 requirements of R307-347-7(1).

1 (3) The owner or operator shall maintain records of key system
2 parameters necessary to ensure compliance with R307-347-7. Key system
3 parameters may include, but are not limited to, temperature, pressure
4 and flow rates. Operator inspection schedule, monitoring,
5 recordkeeping, and key parameters shall be in accordance with the
6 manufacturer's recommendations, and as required to demonstrate
7 operations are providing continuous emission reduction from the source
8 during all periods that the operations cause emissions from the source.

9 (4) The owner or operator shall maintain for a minimum of two
10 years records of operating and maintenance sufficient to demonstrate
11 that the equipment is being operated and maintained in accordance
12 with the manufacturer recommendations.

13
14
15 ~~[R307-347-8. Compliance Schedule.~~

16 ~~(1) All sources in Davis and Salt Lake counties are subject~~
17 ~~to this rule as of the effective date of this rule.~~

18 ~~(2) Sources in Box Elder, Cache, Tooele, Utah and Weber counties~~
19 ~~shall be in compliance with this rule by January 1, 2014.]~~

20
21 **KEY: air pollution, emission controls, large appliance, surface**
22 **coating**

23 **Date of Enactment or Last Substantive Amendment: [February 1,**
24 **2013]2014**

25 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-348. Magnet Wire Coatings.**

3 **R307-348-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from ovens of magnet wire coating operations.
6

7 **R307-348-2. Applicability.**

8 [~~(1)~~]R307-348 applies to sources located in Box Elder, Cache,
9 Davis, Salt Lake, Tooele, Utah and Weber counties that have the
10 potential to emit 2.7 tons per year or more of VOC, including related
11 cleaning activities.

12 [~~(2) In Box Elder and Tooele counties, R307-348 applies to the~~
13 ~~following sources:~~

14 ~~(a) Existing sources as of February 1, 2013, with the potential~~
15 ~~to emit 5 tons per year or more of VOC, including related cleaning~~
16 ~~activities; and~~

17 ~~(b) New sources as of February 1, 2013, that have the potential~~
18 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
19 ~~activities.]~~
20

21 **R307-348-3. Definitions.**

22 The following additional definition applies to R307-348:

23 "Magnet wire coating" means the process of applying coating of
24 electrical insulating varnish or enamel to aluminum or copper wire
25 for use in electrical machinery.
26

27 **R307-348-4. [~~Emission Standards~~]VOC Content Limit.**

28 (1) No owner or operator of a magnet wire coating oven may cause,
29 allow or permit discharge into the atmosphere of any VOC in excess
30 of 0.20 kilograms per liter of coating (1.7 pounds per gallon),
31 excluding water, and exempt solvents (compounds not classified as
32 VOCs) delivered to the coating applicator from magnet wire coating
33 operations.

34 (a) Equivalency calculations for coatings shall be performed
35 in units of pounds VOCs per gallon of solid rather than pounds VOCs
36 per gallon of coating when determining compliance.

37 (b) The equivalent emission limit is 2.2 pounds VOCs per gallon
38 solids.

39 (2) The emission limitations specified above shall be achieved
40 by:

41 (a) The application of low solvent content coating technology;
42 or

43 (b) The use of an add-on control device on magnet wire coating
44 ovens as specified in R307-348-6.
45

46 **R307-348-5. Work Practices and Recordkeeping.**

47 (1) The owner or operator shall:

48 (a) Store all VOC-containing coatings and cleaning materials
49 in closed containers;

50 (b) Minimize spills of VOC-containing coatings and cleaning
51 materials;

- 1 (c) Clean up spills immediately;
2 (d) Convey any coatings, thinners, and cleaning materials in
3 closed containers or pipes;
4 (e) Close mixing vessels that contain VOC coatings and other
5 materials except when specifically in use; and
6 (f) Minimize usage of solvents during cleaning of storage,
7 mixing, and conveying equipment.
8 (2) All sources subject to R307-348 shall maintain records
9 demonstrating compliance with~~[all provisions of]~~ R307-348-4, and
10 these records shall be available to the director upon request.
11

12 **R307-348-6. [~~Optional~~]Add-On Controls Systems Operations.**

13 [~~—(1)—The owner or operator may install and maintain an
14 incinerator provided that the emission control device will attain
15 at least 90% efficiency performance.~~

16 ~~—(2)—The owner or operator of a control device shall provide
17 documentation that the emission control system will attain the
18 requirements of R307-348-6.~~

19 ~~—(3)—Emission control systems shall be operated and maintained
20 in accordance with the manufacturer recommendations. The owner or
21 operator shall maintain for a minimum of two years records of operating
22 and maintenance sufficient to demonstrate that the equipment is being
23 operated and maintained in accordance with the manufacturer
24 recommendations.]~~

25 (1) The owner or operator shall install and maintain an
26 incinerator, carbon adsorption, or any other add-on emission control
27 system, provided that the emission control system is operated and
28 maintained in accordance with the manufacturer recommendations in
29 order to maintain at least 90% capture and control efficiency.
30 Determination of overall capture and control efficiency shall be
31 determined using EPA approved methods, as follows.

32 (a) The capture efficiency of a VOC emission control system's
33 VOC collection device shall be determined according to EPA's
34 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
35 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

36 (b) The control efficiency of a VOC emission control system's
37 VOC control device shall be determined using test methods in Appendices
38 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
39 gaseous organic concentrations, or emissions of exempt compounds,
40 as applicable.

41 (c) An alternative test method may be substituted for the
42 preceding test methods after review and approval by the EPA
43 Administrator.

44 (2) The owner or operator of a control system shall provide
45 documentation that the emission control system will attain the
46 requirements of R307-348-6(1).

47 (3) The owner or operator shall maintain records of key system
48 parameters necessary to ensure compliance with R307-348-6. Key system
49 parameters may include, but are not limited to, temperature, pressure
50 and flow rates. Operator inspection schedule, monitoring,
51 recordkeeping, and key parameters shall be in accordance with the

1 manufacturer's recommendations, and as required to demonstrate
2 operations are providing continuous emission reduction from the source
3 during all periods that the operations cause emissions from the source.

4 (4) The owner or operator shall maintain for a minimum of two
5 years records of operating and maintenance sufficient to demonstrate
6 that the equipment is being operated and maintained in accordance
7 with the manufacturer recommendations.

8
9
10 ~~[R307-348-7. Compliance Schedule.~~

11 ~~—— (1) All sources in Davis and Salt Lake counties are subject~~
12 ~~to this rule as of the effective date of this rule.~~

13 ~~—— (2) Sources in Box Elder, Cache, Utah, Tooele, and Weber~~
14 ~~counties shall be in compliance with this rule by January 1, 2014.]~~

15
16 **KEY: air pollution, emission controls, surface coating, magnet wire**
17 **Date of Enactment or Last Substantive Amendment: [February 1,**
18 **2013]2014**

19 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-349. Flat Wood Panel Coatings.**

3 **R307-349-1. Purpose.**

4 The purpose of R307-349 is to limit volatile organic compound
5 (VOC) emissions from flat wood paneling coating sources.

6
7 **R307-349-2. Applicability.**

8 [~~(1)~~]R307-349 applies to sources located in Box Elder, Cache,
9 Davis, Salt Lake, Tooele, Utah and Weber counties that have the
10 potential to emit 2.7 tons per year or more of VOC, including related
11 cleaning activities.

12 [~~(2) In Box Elder and Tooele counties, R307-349 applies to the~~
13 ~~following sources:~~

14 ~~(a) Existing sources as of February 1, 2013 with the potential~~
15 ~~to emit 5 tons per year or more of VOC, including related cleaning~~
16 ~~activities; and~~

17 ~~(b) New sources as of February 1, 2013 that have the potential~~
18 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
19 ~~activities.]~~

20
21 **R307-349-3. Definitions.**

22 The following additional definitions apply to R307-349:

23 "Coating" means a protective, decorative, or functional material
24 applied in a thin layer to a surface. Such materials may include
25 paints, topcoats, varnishes, sealers, stains, washcoats, basecoats,
26 inks, and temporary protective coatings.

27 "Finishing material" means a coating used in the flat wood panel
28 industry, including basecoats, stains, washcoats, sealers, and
29 topcoats.

30 "Flat wood paneling" means wood paneling products that are any
31 decorative interior, exterior or tileboard (class I hardboard) panel
32 to which a protective, decorative, or functional material or layer
33 has been applied.

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

37 "Strippable booth coating" means a coating that is applied to
38 a booth wall to provide a protective film to receive overspray during
39 finishing and that is subsequently peeled and disposed. Strippable
40 booth coatings are intended to reduce or eliminate the need to use
41 organic solvents to clean booth walls.

42 "Tileboard" means a premium interior wall paneling product made
43 of hardboard that meets the specifications for Class I given by the
44 standard ANSI/AHA A135.4-1995.

45
46 **R307-349-4. [~~Emission Standards~~]VOC Content Limit.**

47 (1) Each owner or operator shall not apply coatings with a VOC
48 content in excess of 2.1 pounds of VOC per gallon, excluding water
49 and exempt solvents (compounds not classified as VOC). The equivalent
50 emission limit shall be 2.9 pounds VOCs per gallon solids coating;
51 or

52 (2) Each owner or operator shall use an add-on control device

1 as specified in R307-349-6.

2
3 **R307-349-5. Work Practice and Recordkeeping.**

4 (1) The owner or operator shall:

5 (a) Store all VOC-containing coatings, thinners, and cleaning
6 materials in closed containers;

7 (b) Minimize spills of VOC-containing coatings, thinners, and
8 cleaning materials;

9 (c) Clean up spills immediately;

10 (d) Convey any coatings, thinners, and cleaning materials in
11 closed containers or pipes;

12 (e) Close mixing vessels that contain VOC coatings and other
13 materials except when specifically in use; and

14 (f) Minimize usage of solvents during cleaning of storage,
15 mixing, and conveying of equipment.

16 (2) No person shall apply any coating unless the coating
17 application method achieves a demonstrated 65% transfer efficiency.

18 The following applications achieve a minimum of 65% transfer
19 efficiency and shall be operated in accordance with the manufacturers
20 specifications:

21 (a) Paint brush;

22 (b) Flow coat;

23 (c) Roll coat;

24 (d) Dip coat;

25 (e) Detailing or touch-up guns;

26 (e) High-volume, low-pressure (HVLP) spray;

27 (f) Hand application methods; or

28 (g) Other application method capable of achieving at least 65%
29 transfer efficiency, as certified by the manufacturer.

30 (3) No person shall use organic solvents for cleaning operations
31 that exceed a VOC content of 0.21 pounds per gallon and a strippable
32 booth coating with a VOC content in excess of 3.8 pounds per gallon,
33 excluding water and exempt solvents (compounds that are not defined
34 as VOC).

35 (4) All sources subject to R307-349 shall maintain records
36 demonstrating compliance with ~~all provisions of~~ R307-349-4 and
37 R307-349-5 ~~on an annual basis~~.

38 (a) Records should include, but not be limited to, inventory
39 and products data sheets of all coatings and solvents subject to
40 R307-349.

41 (b) These records shall be available to the Director upon
42 request.

43
44 **R307-349-6. [Optional] Add-On Controls Systems Operations.**

45 ~~_____ (1) The owner or operator may install and maintain an~~
46 ~~incinerator, carbon adsorption, or any other add-on emission control~~
47 ~~device, provided that the emission control device will attain at least~~
48 ~~90% efficiency performance.~~

49 ~~_____ (2) The owner or operator of a control device shall provide~~
50 ~~documentation that the emission control system will attain the~~
51 ~~requirements of R307-349-6.~~

52 ~~_____ (3) Emission control systems shall be operated and maintained~~

1 ~~in accordance with the manufacturer recommendations. The owner or~~
2 ~~operator shall maintain for a minimum of two years records of operating~~
3 ~~and maintenance sufficient to demonstrate that the equipment is being~~
4 ~~operated and maintained in accordance with the manufacturer~~
5 ~~recommendations.]~~

6 (1) The owner or operator shall install and maintain an
7 incinerator, carbon adsorption, or any other add-on emission control
8 system, provided that the emission control system is operated and
9 maintained in accordance with the manufacturer recommendations in
10 order to maintain at least 90% capture and control efficiency.
11 Determination of overall capture and control efficiency shall be
12 determined using EPA approved methods, as follows.

13 (a) The capture efficiency of a VOC emission control system's
14 VOC collection device shall be determined according to EPA's
15 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
16 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

17 (b) The control efficiency of a VOC emission control system's
18 VOC control device shall be determined using test methods in Appendices
19 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
20 gaseous organic concentrations, or emissions of exempt compounds,
21 as applicable.

22 (c) An alternative test method may be substituted for the
23 preceding test methods after review and approval by the EPA
24 Administrator.

25 (2) The owner or operator of a control system shall provide
26 documentation that the emission control system will attain the
27 requirements of R307-349-6(1).

28 (3) The owner or operator shall maintain records of key system
29 parameters necessary to ensure compliance with R307-349-6. Key system
30 parameters may include, but are not limited to, temperature, pressure
31 and flow rates. Operator inspection schedule, monitoring,
32 recordkeeping, and key parameters shall be in accordance with the
33 manufacturer's recommendations, and as required to demonstrate
34 operations are providing continuous emission reduction from the source
35 during all periods that the operations cause emissions from the source.

36 (4) The owner or operator shall maintain for a minimum of two
37 years records of operating and maintenance sufficient to demonstrate
38 that the equipment is being operated and maintained in accordance
39 with the manufacturer recommendations.

40
41
42 **~~[R307-349-7. Compliance Schedule.~~**

43 ~~_____ (1) All sources in Davis and Salt Lake counties are subject~~
44 ~~to this rule as of the effective date of this rule.~~

45 ~~_____ (2) Sources in Box Elder, Cache, Tooele, Utah and Weber counties~~
46 ~~shall be in compliance with this rule by January 1, 2014.]~~

47
48 **KEY: air pollution, emission controls, flat wood paneling, coatings**
49 **Date of Enactment or Last Substantive Amendment: [February 1,**
50 **2013]2014**

51 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-350. Miscellaneous Metal Parts and Products Coatings.**

3 **R307-350-1. Purpose.**

4 The purpose of R307-350 is to limit volatile organic compound
5 (VOC) emissions from miscellaneous metal parts and products coating
6 operations.

7
8 **R307-350-2. Applicability.**

9 (1) R307-350 applies to sources located in Box Elder, Cache,
10 Davis, Salt Lake, Tooele, Utah and Weber counties where the potential
11 to emit VOC emissions from all miscellaneous metal product parts
12 surface coating operations, including related cleaning activities,
13 is 2.7 tons per year or more.

14 [~~—(2) In Box Elder and Tooele counties, R307-350 applies to the~~
15 ~~following sources:~~

16 ~~—(a) Existing sources as of February 1, 2013, with the potential~~
17 ~~to emit 5 tons per year or more of VOC, including related cleaning~~
18 ~~activities; and~~

19 ~~—(b) New sources as of February 1, 2013, that have the potential~~
20 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
21 ~~activities.]~~

22 ([3]2) R307-350 applies to, but is not limited to, the following
23 industries:

24 (a) Large farm machinery (harvesting, fertilizing, planting,
25 tractors, combines, etc.);

26 (b) Small farm machinery (lawn and garden tractors, lawn mowers,
27 rototillers, etc.)

28 (c) Small appliance (fans, mixers, blenders, crock pots, vacuum
29 cleaners, etc.);

30 (d) Commercial machinery (computers, typewriters, calculators,
31 vending machines, etc.);

32 (e) Industrial machinery (pumps, compressors, conveyor
33 components, fans, blowers, transformers, etc.);

34 (f) Fabricated metal products (metal covered doors, frames,
35 trailer frames, etc.); and

36 (g) Any other industrial category that coats metal parts or
37 products under the standard Industrial Classification Code of major
38 group 33 (primary metal industries), major group 34 (fabricated metal
39 products), major group 35 (nonelectric machinery), major group 36
40 (electrical machinery), major group 37 (transportation equipment)
41 major group 38 (miscellaneous instruments), and major group 39
42 (miscellaneous manufacturing industries).

43
44 **R307-350-3. Exemptions.**

45 (1) The requirements of R307-350 do not apply to the following:

46 (a) The surface coating of automobiles and light-duty trucks;

47 (b) Flat metal sheets and strips in the form of rolls or coils;

48 (c) Surface coating of aerospace vehicles and components;

49 (d) Automobile refinishing;

50 (e) The exterior of marine vessels;

51 (f) Customized top coating of automobiles and trucks if

1 production is less than 35 vehicles per day;

2 (g) Military munitions manufactured by or for the Armed Forces
3 of the United States;

4 (h) Operations that are exclusively covered by Department of
5 Defense military technical data and performed by a Department of
6 Defense contractor and/or on site at installations owned and/or
7 operated by the United States Armed Forces; or

8 (i) Stripping of cured coatings and adhesives.

9 (2) The requirements of R307-350-5 do not apply to the
10 following:

11 (a) Stencil coatings;

12 (b) Safety-indicating coatings;

13 (c) Solid-film lubricants;

14 (d) Electric-insulating and thermal-conducting coatings;

15 (e) Magnetic data storage disk coatings; or

16 (f) Plastic extruded onto metal parts to form a coating.

17 (3) The requirements of R307-350-6 do not apply to the
18 following:

19 (a) Touch-up coatings;

20 (b) Repair coatings; or

21 (c) Textured finishes.

22 23 **R307-350-4. Definitions.**

24 The following additional definitions apply to R307-350:

25 "Aerospace vehicles and component" means any fabricated part,
26 processed part, assembly of parts, or completed unit, with the
27 exception of electronic components, of any aircraft including but
28 not limited to airplanes, helicopters, missiles, rockets and space
29 vehicles.

30 "Air dried coating" means coatings that are dried by the use
31 of air or a forced warm air at temperatures up to 194 degrees
32 Fahrenheit.

33 "Baked coating" means coatings that are cured at a temperature
34 at or above 194 degrees Fahrenheit.

35 "Camouflage coating" means coatings that are used, principally
36 by the military, to conceal equipment from detection.

37 "Coating" means a material applied to a substrate for decorative,
38 protective, or functional purposes.

39 (1) Such materials include, but are not limited to, paints,
40 sealants, liquid plastic coatings, caulks, inks, adhesives, and
41 maskants.

42 (2) Decorative, protective, or functional materials that
43 consist only of protective oils for metal, acids, bases, or any
44 combination of these substances, or paper film or plastic film which
45 may be pre-coated with an adhesive by the film manufacturer, are not
46 considered coatings.

47 "Coating application System" means all operations and equipment
48 that applies, conveys, and dries a surface coating, including, but
49 not limited to, spray booths, flow coaters, flash off areas, air dryers
50 and ovens.

51 "Cured coating or adhesive" means a coating or adhesive, which

1 is dry to the touch.

2 "Department of Defense military technical data" means a
3 specification that specifies design requirements, such as materials
4 to be used, how a requirement is to be achieved, or how an item is
5 to be fabricated or constructed.

6 "Dip coating" means a method of applying coatings to a substrate
7 by submersion into and removal from a coating bath.

8 "Electric-insulating varnish" means a non-convertible-type
9 coating applied to electric motors, components of electric motors,
10 or power transformers, to provide electrical, mechanical, and
11 environmental protection or resistance.

12 "Electric-insulating and thermal-conducting" means a coating
13 that displays an electrical insulation of at least 1000 volts DC per
14 mil on a flat test plate and an average thermal conductivity of at
15 least 0.27 BTU per hour-foot-degree-Fahrenheit.

16 "Electrostatic application" means a method of applying coating
17 particles or coating droplets to a grounded substrate by electrically
18 charging them.

19 "Etching filler" mean a coating that contains less than 23% solids
20 by weight and at least 0.5% acid by weight, and is used instead of
21 applying a pretreatment coating followed by a primer.

22 "Extreme high-gloss coating" means a coating which, when tested
23 by the American Society for Testing Material (ASTM) Test Method D-523
24 adopted in 1980, shows a reflectance of 75 or more on a 60 degree
25 meter.

26 "Extreme performance coatings" means coatings designed for harsh
27 exposure or extreme environmental conditions.

28 "Flow coat" means a non-atomized technique of applying coatings
29 to a substrate with a fluid nozzle in a fan pattern with no air supplied
30 to the nozzle.

31 "Heat-resistant coating" means a coating that must withstand
32 a temperature of at least 400 degrees Fahrenheit during normal use.

33 "High-performance architectural coating" means a coating used
34 to protect architectural subsections and which meets the requirements
35 of the Architectural Aluminum Manufacturer Association's publication
36 number AAMA 605.2-1980.

37 "High-temperature coating" means a coating that is certified
38 to with-stand a temperature of 1,000 degrees Fahrenheit for 24 hours.

39 "High-volume, low-pressure (HVLP) spray" means a coating
40 application system which is designed to be operated and which is
41 operated between 0.1 and 10 pounds per square inch gauge (psig) air
42 pressure, measured dynamically at the center of the air cap and the
43 air horns.

44 "Magnetic data storage disk coating" means a coating used on
45 a metal disk which stores data magnetically.

46 "Metallic coating" means a coating which contains more than 5
47 grams of metal particles per liter of coating, applied.

48 "Military specification coating" means a coating applied to metal
49 parts and products and which has a formulation approved by a United
50 States military agency for use on military equipment.

51 "Mold-seal coating" means the initial coating applied to a new

1 mold or repaired mold to provide a smooth surface which, when coated
2 with a mold release coating, prevents products from sticking to the
3 mold.

4 "Multi-component coating" means a coating requiring the addition
5 of a separate reactive resin, commonly known as a catalyst or hardener,
6 before application to form an acceptable dry film.

7 "One-component coating" means a coating that is ready for
8 application as it comes out of its container to form an acceptable
9 dry film. A thinner, necessary to reduce the viscosity, is not
10 considered a component.

11 "Pan backing coating" means a coating applied to the surface
12 of pots, pans, or other cooking implements that are exposed directly
13 to a flame or other heating elements.

14 "Prefabricated architectural component coatings" means coatings
15 applied to metal parts and products that are to be used as an
16 architectural structure or their appurtenances including, but not
17 limited to, hand railings, cabinets, bathroom and kitchen fixtures,
18 fences, rain-gutters and down-spouts, window screens, lamp-posts,
19 heating and air conditioning equipment, other mechanical equipment,
20 and large fixed stationary tools.

21 "Pretreatment coating" means a coating which contains no more
22 than 12% solids by weight, and at least 0.5% acid, by weight, is used
23 to provide surface etching, and is applied directly to metal surfaces
24 to provide corrosion resistance, adhesion, and ease of stripping.

25 "Primer" means a coating applied to a surface to provide a firm
26 bond between the substrate and subsequent coats.

27 "Repair coating" means a coating used to recoat portions of a
28 part or product which has sustained mechanical damage to the coating.

29 "Safety-indicating coating" means a coating which changes
30 physical characteristics, such as color, to indicate unsafe condition.

31 "Silicone release coating" means any coating which contains
32 silicone resin and is intended to prevent food from sticking to metal
33 surfaces.

34 "Solar-absorbent coating" means a coating which has as its prime
35 purpose the absorption of solar radiation.

36 "Solid-film lubricant" means a very thin coating consisting of
37 a binder system containing as its chief pigment material one or more
38 of molybdenum disulfide, graphite, polytetrafluoroethylene (PTFE)
39 or other solids that act as a dry lubricant between faying surfaces.

40 "Stencil coating" means an ink or a coating which is rolled or
41 brushed onto a template or stamp in order to add identifying letters
42 or numbers to metal parts and products.

43 "Textured finish" means a rough surface produced by spraying
44 and splattering large drops of coating onto a previously applied
45 coating. The coatings used to form the appearance of the textured
46 finish are referred to as textured coatings.

47 "Touch-up coating" means a coating used to cover minor coating
48 imperfections appearing after the main coating operation.

49 "Vacuum-metalizing coating" means the undercoat applied to the
50 substrate on which the metal is deposited or the overcoat applied
51 directly to the metal film.

1
2 **R307-350-5. [~~Emission Standards~~VOC Content Limits.**

3 (1) Each owner or operator shall not apply coatings with a VOC
4 content in excess of the amounts specified in Table 1 or shall use
5 an add-on control device as specified in R307-350-8.
6

7 TABLE 1
8

9 METAL PARTS AND PRODUCTS VOC CONTENT LIMITS

10 (values in pounds of VOC per gallon of coating, minus water and
11 exempt solvents (compounds not classified as VOC)), as applied)
12

13 COATING CATEGORY	14 VOC CONTENT LIMITS	
	15 Air Dried	16 Baked
17 General One Component	2.8	2.3
18		
19 General Multi Component	2.8	2.3
20		
21 Camouflage	3.5	3.5
22		
23 Electric-Insulating	3.5	3.5
24 varnish		
25		
26 Etching Filler	3.5	3.5
27		
28 Extreme High-Gloss	3.5	3.0
29		
30 Extreme Performance	3.5	3.0
31		
32 Heat-Resistant	3.5	3.0
33		
34 High Performance	6.2	6.2
35 architectural		
36		
37 High Temperature	3.5	3.5
38		
39 Metallic	3.5	3.5
40		
41 Military Specification	2.8	2.3
42		
43 Mold-Seal	3.5	3.5
44		
45 Pan Backing	3.5	3.5
46		
47 Prefabricated Architectural	3.5	2.3
48 Multi-Component		
49		
50 Prefabricated Architectural	3.5	2.3
51 One-Component		

1			
2	Pretreatment Coatings	3.5	3.5
3			
4	Repair and Touch Up	3.5	3.0
5			
6	Silicone Release	3.5	3.5
7			
8	Solar-Absorbent	3.5	3.0
9			
10	Vacuum-Metalizing	3.5	3.5
11			
12	Drum Coating, New, Exterior	2.8	2.8
13			
14	Drum Coating, New, Interior	3.5	3.5
15			
16	Drum Coating, Reconditioned,	3.5	3.5
17	Exterior		
18			
19	Drum Coating, Reconditioned,	4.2	4.2
20	Interior		
21			

22 (2) If more than one content limit indicated in this section
 23 applies to a specific coating, then the most stringent content limit
 24 shall apply.

25
 26 **R307-350-6. Application Methods.**

27 No owner or operator of a facility shall apply VOC containing
 28 coatings to metal parts and products unless the coating is applied
 29 with equipment operated according to the equipment manufacturer
 30 specifications, and by the use of one of the following methods:

- 31 (1) Electrostatic application;
- 32 (2) Flow coat;
- 33 (3) Dip/electrodeposition coat;
- 34 (4) Roll coat;
- 35 (5) High-volume, low-pressure (HVLV) spray;
- 36 (6) Hand Application Methods;
- 37 (7) Airless or air-assisted airless spray may also be used for
 38 metal coatings with a viscosity of 15,000 centipoise or greater, as
 39 supplied; or
- 40 (8) Another application method capable of achieving transfer
 41 efficiency equivalent or better to HVLV spray, as certified by the
 42 manufacturer.

43
 44 **R307-350-7. Work Practices and Recordkeeping.**

- 45 (1) Control techniques and work practices shall be implemented
 46 at all times to reduce VOC emissions[~~from fugitive type sources~~].
 47 Control techniques and work practices shall include, but are not
 48 limited to:
- 49 (a) Storing all VOC-containing coatings, thinners, and
 50 coating-related waste materials in closed containers;
- 51 (b) Ensuring that mixing and storage containers used for

1 VOC-containing coatings, thinners, and coating-related waste material
2 are kept closed at all times except when depositing or removing these
3 materials;

4 (c) Minimizing spills of VOC-containing coatings, thinners,
5 and coating-related waste materials; and

6 (d) Conveying VOC-containing coatings, thinners, and
7 coating-related waste materials from one location to another in closed
8 container or pipes; and

9 (e) Minimizing VOC emission from cleaning of application,
10 storage, mixing, and conveying equipment by ensuring that equipment
11 cleaning is performed without atomizing the cleaning solvent and all
12 spent solvent is captured in closed containers.

13 (2) All persons shall perform solvent cleaning operations with
14 cleaning material having VOC content of 0.21 pounds per gallon or
15 less.

16 (3) All sources subject to R307-350 shall maintain records
17 demonstrating compliance with ~~[all provisions of]~~ R307-350-5,
18 R307-350-6, and R307-350-7(2) ~~[on an annual basis]~~.

19 (a) Records shall include, but not be limited to, inventory
20 and product data sheets of all coatings and solvents subject to
21 R307-350.

22 (b) These records shall be available to the director upon
23 request.

24
25 **R307-350-8. [Optional] Add-On Controls Systems Operations.**

26 ~~[(1) The owner or operator may install and maintain an
27 incinerator, carbon adsorption, or any other add on emission control
28 device, provided that the emission control device will attain at least
29 90% efficiency performance.]~~

30 ~~[(2) The owner or operator of a control device shall provide
31 documentation that the emission control system will attain the
32 requirements of R307-350-8.]~~

33 ~~[(3) Emission control systems shall be operated and maintained
34 in accordance with the manufacturer recommendations. The owner or
35 operator shall maintain for a minimum of two years records of operating
36 and maintenance sufficient to demonstrate that the equipment is being
37 operated and maintained in accordance with the manufacturer
38 recommendations.]~~

39 (1) The owner or operator shall install and maintain an
40 incinerator, carbon adsorption, or any other add-on emission control
41 system, provided that the emission control system is operated and
42 maintained in accordance with the manufacturer recommendations in
43 order to maintain at least 90% capture and control efficiency.
44 Determination of overall capture and control efficiency shall be
45 determined using EPA approved methods, as follows.

46 (a) The capture efficiency of a VOC emission control system's
47 VOC collection device shall be determined according to EPA's
48 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
49 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

50 (b) The control efficiency of a VOC emission control system's
51 VOC control device shall be determined using test methods in Appendices

1 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
2 gaseous organic concentrations, or emissions of exempt compounds,
3 as applicable.

4 (c) An alternative test method may be substituted for the
5 preceding test methods after review and approval by the EPA
6 Administrator.

7 (2) The owner or operator of a control system shall provide
8 documentation that the emission control system will attain the
9 requirements of R307-350-8(1).

10 (3) The owner or operator shall maintain records of key system
11 parameters necessary to ensure compliance with R307-350-8. Key system
12 parameters may include, but are not limited to, temperature, pressure
13 and flow rates. Operator inspection schedule, monitoring,
14 recordkeeping, and key parameters shall be in accordance with the
15 manufacturer's recommendations, and as required to demonstrate
16 operations are providing continuous emission reduction from the source
17 during all periods that the operations cause emissions from the source.

18 (4) The owner or operator shall maintain for a minimum of two
19 years records of operating and maintenance sufficient to demonstrate
20 that the equipment is being operated and maintained in accordance
21 with the manufacturer recommendations.

22
23
24 ~~[R307-350-9. Compliance Schedule.~~

25 ~~—All sources shall be in compliance with the requirements of~~
26 ~~R307-350 by January 1, 2014.]~~

27
28 **KEY: air pollution, emission controls, coatings, miscellaneous metal**
29 **parts**

30 **Date of Enactment or Last Substantive Amendment: [December 3,**
31 **2013]2014**

32 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-352. Metal Container, Closure, and Coil Coatings.**

3 **R307-352-1. Purpose.**

4 The purpose of this rule is to reduce volatile organic compound
5 (VOC) emissions from the coating of metal coils, cans, pails, and
6 lids in the manufacturing or reconditioning process.

7
8 **R307-352-2. Applicability.**

9 [~~(1)~~]R307-352 applies to sources located in Box Elder, Cache,
10 Davis, Salt Lake, Tooele, Utah and Weber counties that have the
11 potential to emit 2.7 tons per year or more of VOC, including related
12 cleaning activities.

13 [~~(2) In Box Elder and Tooele counties, R307-352 applies to the~~
14 ~~following sources:~~

15 ~~_____ (a) Existing sources as of February 1, 2013 with the potential~~
16 ~~to emit 5 tons per year or more of VOC, including related cleaning~~
17 ~~activities; and~~

18 ~~_____ (b) New sources as of February 1, 2013 that have the potential~~
19 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
20 ~~activities.]~~

21
22 **R307-352-3. Definitions.**

23 The following additional definitions apply to R307-352:

24 "Coating" means a protective, functional or decorative film
25 applied in a thin layer to a surface.

26 "End sealing compound" means a compound which is coated onto
27 can ends and which functions as a gasket when the end is assembled
28 onto the can.

29 "Exterior body spray" means a coating sprayed on the exterior
30 of the container body to provide a decorative or protective finish.

31 "Interior body spray" means a coating sprayed on the interior
32 of the can body to provide a protective film between the product and
33 the can.

34 "Metal container or closure coating" means any coating applied
35 to either the interior or exterior of formed metal cans, pails, lids
36 or crowns or flat metal sheets which are intended to be formed into
37 cans, pails, lids or crowns.

38 "Overvarnish" means a coating applied directly over a design
39 coating to reduce the coefficient of friction, to provide gloss and
40 to protect the finish against abrasion and corrosion.

41 "Reconditioned pails or lids" means any metal container which
42 is reused, recycled or remanufactured.

43 "Three-piece can side-seam coating" means a coating sprayed on
44 the exterior and/or interior of a welded, cemented or soldered seam
45 to protect the exposed metal.

46 "Two-piece can exterior-end coating" means a coating applied
47 to the exterior bottom end of a can to reduce the coefficient of
48 friction and to provide protection to the metal.

49
50 **R307-352-4. [~~Emission Standards~~]VOC Content Limits.**

51 Each owner or operator shall not apply coatings with a VOC content
52 in excess of the amounts specified in Table 1 or shall use an add-on

1 control device as specified in R307-352-6.

2

3

TABLE 1

4

5 METAL CONTAINER AND CLOSURE COIL COATING LIMITATIONS

6 (values in pounds VOC per gallon of coating, minus water and
7 exempt solvents (compounds not classified as VOC), as applied)

8

9 COATING CATEGORY VOC [~~EMISSION RATES~~] CONTENT LIMITS

10

11 CANS

12

13 Sheet basecoat (interior and exterior)
14 and overvarnish

1.9

15

16 Two-piece can exterior basecoat,
17 overvarnish, and end coating

2.1

18

19 Interior body spray

20

21 Two-piece cans

3.5

22

23 Three-piece cans

3.0

24

25 Three-piece can side seam spray

5.5

26

27 End sealing compound: Food cans, non-food
28 cans, and beverage cans

0.1

29

29 Exterior body spray

3.5

30

31 PAILS AND LIDS

32

33 Body spray

34

35 Reconditioned interior

4.2

36

37 Reconditioned exterior

3.5

38

39 New interior

3.5

40

41 New exterior

2.8

42

43 End sealing compound

0.5

44

45 Inks, all applications

2.5

46

47 Coil

48

48 Coil coating

1.7

49

50 **R307-352-5. Work Practices and Recordkeeping.**

51

(1) The owner or operator shall:

52

(a) Store all VOC-containing coatings, thinners, and cleaning

1 materials in closed containers;

2 (b) Minimize spills of VOC-containing coatings, thinners, and
3 cleaning materials;

4 (c) Clean up spills immediately;

5 (d) Convey any coatings, thinners, and cleaning materials in
6 closed containers or pipes;

7 (e) Close mixing vessels that contain VOC coatings and other
8 materials except when specifically in use; and

9 (f) Minimize usage of solvents during cleaning of storage,
10 mixing, and conveying equipment.

11 (2) No person shall apply any coating unless the coating
12 application method achieves a demonstrated 65% transfer efficiency.

13 The following applications achieve a minimum of 65% transfer
14 efficiency and shall be operated in accordance with the manufacturers
15 specifications:

16 (a) Electrostatic application;

17 (b) Flow coat;

18 (c) Roll coat;

19 (d) Dip coat;

20 (e) High-volume, low-pressure (HVL) spray;

21 (f) Hand application methods;

22 (g) Printing techniques; or

23 (h) Other application method capable of achieving at least 65%
24 transfer efficiency, as certified by the manufacturer.

25 (3) All persons shall perform solvent cleaning operations with
26 cleaning material having VOC content of 0.21 lb/gallon or less.

27 (4) All sources subject to R307-352 shall maintain records
28 demonstrating compliance with ~~all provisions of~~ R307-352-4 and
29 R307-352-5 ~~on an annual basis~~.

30 (a) Records shall include, but not be limited to, inventory
31 and product data sheets of all coatings and solvents subject to
32 R307-352.

33 (b) These records shall be made available to the director upon
34 request.

35
36 **R307-352-6. [Optional] Add-On Controls Systems Operations.**

37 ~~—(1)— The owner or operator may install and maintain an
38 incinerator, carbon adsorption, or any other add-on emission control
39 device, provided that the emission control device will attain at least
40 90% efficiency performance.~~

41 ~~—(2)— The owner or operator of a control device shall provide
42 documentation that the emission control system will attain the
43 requirements of R307-352-6.~~

44 ~~—(3)— Emission control systems shall be operated and maintained
45 in accordance with the manufacturer recommendations. The owner or
46 operator shall maintain for a minimum of two years records of operating
47 and maintenance sufficient to demonstrate that the equipment is being
48 operated and maintained in accordance with the manufacturer
49 recommendations.]~~

50 (1) The owner or operator shall install and maintain an
51 incinerator, carbon adsorption, or any other add-on emission control
52 system, provided that the emission control system is operated and

1 maintained in accordance with the manufacturer recommendations in
2 order to maintain at least 90% capture and control efficiency.
3 Determination of overall capture and control efficiency shall be
4 determined using EPA approved methods, as follows.

5 (a) The capture efficiency of a VOC emission control system's
6 VOC collection device shall be determined according to EPA's
7 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
8 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable. (b)
9 The control efficiency of a VOC emission control system's VOC control
10 device shall be determined using test methods in Appendices A-1, A-6,
11 and A-7 to 40 CFR Part 60, for measuring flow rates, total gaseous
12 organic concentrations, or emissions of exempt compounds, as
13 applicable.

14 (c) An alternative test method may be substituted for the
15 preceding test methods after review and approval by the EPA
16 Administrator.

17 (2) The owner or operator of a control system shall provide
18 documentation that the emission control system will attain the
19 requirements of R307-352-6(1).

20 (3) The owner or operator shall maintain records of key system
21 parameters necessary to ensure compliance with R307-352-6. Key system
22 parameters may include, but are not limited to, temperature, pressure
23 and flow rates. Operator inspection schedule, monitoring,
24 recordkeeping, and key parameters shall be in accordance with the
25 manufacturer's recommendations, and as required to demonstrate
26 operations are providing continuous emission reduction from the source
27 during all periods that the operations cause emissions from the source.

28 (4) The owner or operator shall maintain for a minimum of two
29 years records of operating and maintenance sufficient to demonstrate
30 that the equipment is being operated and maintained in accordance
31 with the manufacturer recommendations.

32
33 ~~[R307-352-7. Compliance Schedule.~~

34 ~~—All sources within Box Elder, Cache, Davis, Salt Lake, Tooele,~~
35 ~~Utah and Weber counties shall be in compliance with this rule by January~~
36 ~~1, 2014.]~~

37
38 **KEY: air pollution, emission controls, metal containers, coil**
39 **coatings**

40 **Date of Enactment or Last Substantive Amendment: [February 1,**
41 **2013]2014**

42 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-353. Plastic Parts Coatings.**

3 **R307-353-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from the application of coatings to any plastic
6 product.

7
8 **R307-353-2. Applicability.**

9 [~~(1)~~]R307-353 applies to plastic parts coating operations
10 located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber
11 counties that have the potential to emit 2.7 tons per year or more
12 of VOC, including related cleaning activities.

13 [~~(2) In Box Elder and Tooele counties, R307-353 applies to the~~
14 ~~following sources:~~

15 ~~(a) Existing sources as of May 1, 2013 with the potential to~~
16 ~~emit 5 tons per year or more of VOC, including related cleaning~~
17 ~~activities; and~~

18 ~~(b) New sources as of May 1, 2013 that have the potential to~~
19 ~~emit 2.7 tons per year or more of VOC, including related cleaning~~
20 ~~activities.]~~

21
22 **R307-353-3. Exemptions.**

23 (1) The provisions of this rule shall not apply to any of the
24 following:

25 (a) Stencil coatings;

26 (b) Safety-indicating coatings;

27 (c) Electric-insulating and thermal-conducting coatings;

28 (d) Magnetic data storage disk coatings;

29 (e) Plastic extruded onto metal parts to form a coating; and

30 (f) Textured finishes.

31 (2) If a coating line is subject to the requirements for existing
32 automobile, light-duty truck, and other product and material coatings
33 or for existing metallic surface coating lines, the coating line shall
34 be exempt from this rule.

35
36 **R307-353-4. Definitions.**

37 The following additional definitions apply to R307-353:

38 "Air dried coating" means coatings that are dried by the use
39 of air or a forced warm air at temperatures up to 194 degrees
40 Fahrenheit.

41 "Baked coating" means coatings that are cured at a temperature
42 at or above 194 degrees Fahrenheit.

43 "Coating" means a protective, functional, or decorative film
44 applied in a thin layer to a surface. This term often applies to
45 paints such as lacquers or enamels. It is also used to refer to films
46 applied to paper, plastics, or foil.

47 "Electric-insulating and thermal-conducting" means a coating
48 that displays an electrical insulation of at least 1000 volts DC per
49 mil on a flat test plate and an average thermal conductivity of at
50 least 0.27 BTU per hour-foot-degree-Fahrenheit.

51 "Magnetic data storage disk coating" means a coating used on

1 a metal disk which stores data magnetically.

2 "Metallic coating" means a coating which contains more than 5
3 grams of metal particles per liter of coating as applied.

4 "Military specification coating" means a coating which has a
5 formulation approved by a United States military agency for use on
6 military equipment.

7 "Mirror backing" means the coating applied over the silvered
8 surface of a mirror.

9 "Mold-seal coating" means the initial coating applied to a new
10 mold or a repaired mold to provide a smooth surface which, when coated
11 with a mold release coating, prevents products from sticking to the
12 mold.

13 "Multi-colored coating" means a coating which exhibits more than
14 one color when applied, and which is packaged in a single container
15 and applied in a single coat.

16 "Multi-component coating" means a coating requiring the addition
17 of a separate reactive resin, commonly known as a catalyst, before
18 application to form an acceptable dry film.

19 "One-component coating" means a coating that is ready for
20 application as it comes out of its container to form an acceptable
21 dry film. A thinner necessary to reduce the viscosity is not
22 considered a component.

23 "Optical coating" means a coating applied to an optical lens.

24 "Plastic" means a substrate containing one or more resins that
25 may be solid, porous, flexible, or rigid, and includes fiber reinforced
26 plastic composites.

27 "Primer" means a coating applied to a surface to provide a firm
28 bond between the substrate and subsequent coats.

29 "Repair coating" means a coating used to recoat portions of a
30 part or product which has sustained mechanical damage to the coating.

31 "Roller Coated" means a type of coating application equipment
32 that utilizes a series of mechanical rollers to form a thin coating
33 film on the surface of a roller, which is then applied to a substrate
34 by moving the substrate underneath the roller.

35 "Safety-indicating coating" means a coating which changes
36 physical characteristics, such as color, to indicate unsafe condition.

37 "Stencil coating" means an ink or a coating which is rolled or
38 brushed onto a template or stamp in order to add identifying letters
39 or numbers to metal parts and products.

40 "Textured finish" means a rough surface produced by spraying
41 and splattering large drops of coating onto a previously applied
42 coating. The coatings used to form the appearance of the textured
43 finish are referred to as textured coatings.

44 "Touch-up coating" means a coating used to cover minor coating
45 imperfections appearing after the main coating operation.

46 "Topcoat" means the last film-building finishing material
47 applied in a finishing system. Non-permanent final finishes are not
48 topcoats.

49

50 **R307-353-5. [~~Emission Standards~~]VOC Content Limits.**

51 (1) For automobile and truck plastic parts coating lines:

1 (a) Each owner or operator shall not apply coatings with a VOC
2 content in excess of the amounts specified in Table 1 or shall use
3 an add-on control device as specified in R307-353-8.

4 (b) For red and black coatings, the emission limitation shall
5 be determined by multiplying the appropriate limit in Table 1 by 1.15.

6 (c) When EPA Method 24 is used to determine the VOC content
7 of a high bake coating, the applicable emission limitation shall be
8 determined by adding 0.5 to the appropriate limit in Table 1.

9 (d) When EPA Method 24 is used to determine the VOC content
10 of an air-dried coating, the applicable emission limitation shall
11 be determined by adding 0.1 to the appropriate limit in Table 1.

12
13 TABLE 1

14
15 AUTOMOBILE AND TRUCK PLASTIC PARTS COATING LINES

16 (values in pounds of VOC per gallon of coating, minus water and
17 exempt solvents (compounds not classified as VOC), as applied)

18
19 COATING CATEGORY VOC Content Limitations

20
21 High bake coating - exterior and
22 interior parts

23
24 Prime

25 Flexible coating 4.5

26 Nonflexible coating 3.5

27
28
29 Topcoat

30 Basecoat 4.3

31 Clearcoat 4.0

32 Non-basecoat/clearcoat 4.3

33
34
35
36
37 Air-dried coating - exterior parts

38 Prime 4.8

39
40
41 Topcoat

42 Basecoat 5.0

43 Clearcoat 4.5

44 Non-basecoat/clearcoat 5.0

45
46
47
48
49
50 Air-dried coating - interior parts 5.0

1 Touch-up and repair 5.2

2

3 (2) Each owner or operator of a business machine plastic parts
4 coating line shall not apply coatings with a VOC content in excess
5 of the amounts specified in Table 2 or shall use an add-on control
6 device as specified in R307-353-8.

7

8

TABLE 2

9

10 BUSINESS MACHINE PLASTIC PARTS COATING LINES

11 (values in pounds of VOC per gallon of
12 coating, minus water and exempt solvents (compounds not
13 classified as VOC)), as applied)

14

15 COATING CATEGORY VOC Content Limitations

16

17 Prime 2.9

18

19 Topcoat 2.9

20

21 Texture coat 2.9

22

23 Fog coat 2.2

24

25 Touch-up and repair 2.9

26

27 (3) Each owner or operator engaged in other plastic product
28 coating operations shall not apply coatings with a VOC content in
29 excess of the amounts specified in Table 3 or shall use an add-on
30 control device as specified in R307-353-8.

31

32

TABLE 3

33

34 OTHER PLASTIC PRODUCT COATING CATEGORIES

35 (values in pounds of VOC per gallon of
36 coating, minus water and exempt solvents (compounds not
37 classified as VOC), as applied)

38

39 COATING CATEGORY VOC Content Limitations

40

41 General One-Component 2.3

42

43 General Multi-Component 3.5

44

45 Electric Dissipating Coatings
46 And Shock-Free Coatings 3.0

47

48 Extreme Performance 3.5

49

(2-pack coatings)

50

51 Metallic 3.5

1		
2	Military Specification	2.8 (1 pack)
3		3.5 (2 pack)
4		
5	Mold-Seal	6.3
6		
7	Multi-colored Coatings	5.7
8		
9	Optical Coatings	6.7
10		
11	Vacuum-Metalizing	6.7
12		
13	Mirror Backing	
14	Curtain Coated	4.2
15	Roll Coated	3.6
16		

17 (4) If a part consists of both plastic and metal surfaces and
18 is exempted from the requirements for existing metallic surface
19 coating lines, the part shall be subject to this rule.

20
21 **R307-353-6. Application Methods.**

22 No person shall apply VOC containing coatings unless the coating
23 is applied with equipment operated according to the manufacturer
24 specifications, and by use of one of the following methods:

- 25 (1) Electrostatic application;
- 26 (2) Flow coat;
- 27 (3) Roller coat;
- 28 (4) Dip/electrodeposition coat;
- 29 (5) Airless Spray;
- 30 (6) High-volume, low-pressure (HVLV) spray; or
- 31 (7) Other application method equal to or better than HVLV, as
32 certified by the manufacturer.

33
34 **R307-353-7. Work Practices and Recordkeeping.**

- 35 (1) The owner or operator shall:
 - 36 (a) Store all VOC-containing coatings, thinners, and cleaning
37 materials in closed containers;
 - 38 (b) Minimize spills of VOC-containing coatings, thinners, and
39 cleaning materials;
 - 40 (c) Clean up spills immediately;
 - 41 (d) Convey any coatings, thinners, and cleaning materials in
42 closed containers or pipes;
 - 43 (e) Close mixing vessels that contain VOC coatings and other
44 materials except when specifically in use; and
 - 45 (f) Minimize usage of solvents during cleaning of storage,
46 mixing, and conveying equipment.
- 47 (2) All persons shall perform solvent cleaning operations with
48 cleaning material having VOC content of 0.21 pounds per gallon or
49 less.
- 50 (3) All sources subject to R307-353 shall maintain records
51 demonstrating compliance with [~~all provisions of~~] R307-353-5,

1 R307-353-6 and R307-353-7(2)[-on an annual basis].

2 (a) Records shall include, but not be limited to, inventory
3 and product data sheets of all coatings and solvents subject to
4 R307-350.

5 (b) These records shall be made available to the director upon
6 request.

7
8 **R307-353-8. [Optional] Add-On Controls Systems Operations.**

9 [~~—(1)— The owner or operator may install and maintain an
10 incinerator, carbon adsorption, or any other add-on emission control
11 device, provided that the emission control device will achieve at
12 least a 90% or greater emission reduction.~~

13 ~~—(2)— The owner or operator of a control device shall provide
14 documentation that the emission control system will attain the
15 requirements of R307-353-8(1).~~

16 ~~—(3)— Emission control systems shall be operated and maintained
17 in accordance with the manufacturer recommendations. The owner or
18 operator shall maintain for a minimum of two years records of
19 operations and maintenance sufficient to demonstrate that the
20 equipment is being operated and maintained in accordance with the
21 manufacturer recommendations.]~~

22 (1) The owner or operator shall install and maintain an
23 incinerator, carbon adsorption, or any other add-on emission control
24 system, provided that the emission control system is operated and
25 maintained in accordance with the manufacturer recommendations in
26 order to maintain at least 90% capture and control efficiency.
27 Determination of overall capture and control efficiency shall be
28 determined using EPA approved methods, as follows.

29 (a) The capture efficiency of a VOC emission control system's
30 VOC collection device shall be determined according to EPA's
31 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
32 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

33 (b) The control efficiency of a VOC emission control system's
34 VOC control device shall be determined using test methods in Appendices
35 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
36 gaseous organic concentrations, or emissions of exempt compounds,
37 as applicable.

38 (c) An alternative test method may be substituted for the
39 preceding test methods after review and approval by the EPA
40 Administrator.

41 (2) The owner or operator of a control system shall provide
42 documentation that the emission control system will attain the
43 requirements of R307-353-8(1).

44 (3) The owner or operator shall maintain records of key system
45 parameters necessary to ensure compliance with R307-353-8. Key system
46 parameters may include, but are not limited to, temperature, pressure
47 and flow rates. Operator inspection schedule, monitoring,
48 recordkeeping, and key parameters shall be in accordance with the
49 manufacturer's recommendations, and as required to demonstrate
50 operations are providing continuous emission reduction from the source
51 during all periods that the operations cause emissions from the source.

1 (4) The owner or operator shall maintain for a minimum of two
2 years records of operating and maintenance sufficient to demonstrate
3 that the equipment is being operated and maintained in accordance
4 with the manufacturer recommendations.

5
6
7 ~~[R307-353-9. Compliance Schedule.~~

8 ~~—— All sources within Box Elder, Cache, Davis, Salt Lake, Tooele,~~
9 ~~Utah and Weber counties shall be in compliance with this rule by January~~
10 ~~1, 2014.]~~

11
12 **KEY: air pollution, emission controls, coatings, plastic parts**
13 **Date of Enactment or Last Substantive Amendment: [May 1, 2013]2014**
14 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-354. Automotive Refinishing Coatings.**

3 **R307-354-1. Purpose.**

4 The purpose of R307-354 is to limit volatile organic compound
5 emissions (VOC) from automotive refinishing sources.

6
7 **R307-354-2. Applicability.**

8 (1) R307-354 applies to sources located in Box Elder, Cache,
9 Davis, Salt Lake, Tooele, Utah and Weber counties that have the
10 potential to emit 2.7 tons per year or more of VOC, including related
11 cleaning activities.

12 [~~—(2) In Box Elder and Tooele counties, R307-354 applies to the~~
13 ~~following sources:~~

14 ~~—(a) Existing sources as of February 1, 2013 with the potential~~
15 ~~to emit 5 tons per year or more of VOC, including related cleaning~~
16 ~~activities; and~~

17 ~~—(b) New sources as of February 1, 2013 that have the potential~~
18 ~~to emit 2.7 tons per year or more of VOC, including related cleaning~~
19 ~~activities.]~~

20 ([3]2) The requirements of R307-354 shall not apply to any
21 canned aerosol coating products.

22
23 **R307-354-3. Definitions.**

24 The following additional definitions apply to R307-354:

25 "Adhesion promoter" means a coating which is labeled and
26 formulated to be applied to uncoated plastic surfaces to facilitate
27 bonding of subsequent coatings, and on which, a subsequent coating
28 is applied.

29 "Automotive" means passenger cars, vans, motorcycles, trucks,
30 buses, golf carts and all other mobile equipment.

31 "Automotive refinishing" means the process of coating
32 automobiles, after-market automobiles, motorcycles, light and
33 medium-duty trucks and vans that are performed in auto body shops,
34 auto repair shops, production paint shops, new car dealer repair and
35 paint shops, fleet operation repair and paint shops, and any other
36 facility which coats vehicles under the Standard Industrial
37 Classification Code 7532 (Top, Body and Upholstery Repair Shops and
38 Paint Shops). This includes dealer repair of vehicles damaged in
39 transit. It does not include refinishing operations for other types
40 of mobile equipment, such as farm machinery and construction equipment
41 or their parts, including partial body collision repairs, that is
42 subsequent to the original coating applied at an automobile original
43 equipment manufacturing plant.

44 "Clear coating" means any coating that contains no pigments and
45 is labeled and formulated for application over a color coating or
46 clear coating.

47 "Coating" means a protective, decorative, or functional material
48 applied in a thin layer to a surface. Such materials may include
49 paints, topcoats, varnishes, sealers, stains, washcoats, basecoats,
50 inks, and temporary protective coatings.

51 "Color coating" means any pigmented coating, excluding adhesion
52 promoters, primers, and multi-color coatings, that requires a

1 subsequent clear coating and which is applied over a primer, adhesion
2 promoter, or color coating. Color coatings include metallic and
3 iridescent color coatings.

4 "Enclosed paint gun cleaner" means a cleaner consisting of a
5 closed container with a door or top that can be opened and closed
6 and fitted with cleaning connections. The spray gun is attached to
7 a connection, and solvent is pumped through the gun and onto the
8 exterior of the gun. Cleaning solvent falls back into the cleaner's
9 solvent reservoir for recirculation.

10 "Metallic/Iridescent color coating" means a coating which
11 contains iridescent particles, composed of either metal as metallic
12 particles or silicon as mica particles, in excess of 0.042 pounds
13 per gallon as applied, where such particles are visible in the dried
14 film.

15 "Multi-color coating" means a coating which exhibits more than
16 one color when applied, and which is packaged in a single container
17 and applied in a single coat.

18 "Non-enclosed paint gun cleaner" means cleaner consisting of
19 a basin similar to a sink in which the operator washes the outside
20 of the gun under a solvent stream. The gun cup is filled with
21 recirculated solvent, the gun tip is placed into a canister attached
22 to the basin, and suction draws the solvent from the cup through the
23 gun. The solvent gravitates to the bottom of the basin and drains
24 through a small hole to a reservoir that supplies solvent to the
25 recirculation pump.

26 "Pretreatment coating" means a coating which contains no more
27 than 16% solids, by weight, and at least 0.5% acid, by weight, is
28 used to provide surface etching, and is applied directly to bare metal
29 surfaces to provide corrosion resistance and promote adhesion for
30 subsequent coatings.

31 "Primer" means any coating which is labeled and formulated for
32 application to a substrate to provide a bond between the substrate
33 and subsequent coats; corrosion resistance; a smooth substrate
34 surface; or resistance to penetration of subsequent coats, and on
35 which a subsequent coating is applied. Primers may be pigmented.

36 "Single-stage coating" means any pigmented coating, excluding
37 primers and multi-color coatings, labeled and formulated for
38 application without a subsequent clear coat. Single-stage coatings
39 include single-stage metallic/iridescent coatings.

40 "Solids" means the part of the coating that remains after the
41 coating is dried or cured; solids content is determined using data
42 from EPA Method 24.

43 "Temporary protective coating" means any coating which is labeled
44 and formulated for the purpose of temporarily protecting areas from
45 overspray or mechanical damage.

46 "Topcoat" means any coating or series of coatings applied over
47 a primer or an existing finish for the purpose of protection or
48 beautification.

49 "Truck bed liner coating" means any coating, excluding clear,
50 color, multi-color, and single-stage coatings, labeled and formulated
51 for application to a truck bed to protect it from surface abrasion.

52 "Underbody coating" means any coating labeled and formulated

1 for application to wheel wells, the inside of door panels or fenders,
2 the underside of a trunk or hood, or the underside of the motor vehicle.

3 "Uniform finish coating" means any coating labeled and formulated
4 for application to the area around a spot repair for the purpose of
5 blending a repaired area's color or clear coat to match the appearance
6 of an adjacent area's existing coating. Prior to May 1, 2013, this
7 coating category may be referred to as uniform finish blenders.

8 "Uniform finish blender" means a coating designed to blend a
9 repaired topcoat into an existing topcoat.

10
11 **R307-354-4. [~~Emission Standards~~]VOC Content Limits.**

12 Each owner or operator shall not apply coatings with a VOC content
13 in excess of the amounts specified in Table 1 or shall use an add-on
14 control device as specified in R307-354-6.

15
16 TABLE 1

17
18 AUTOMOTIVE REFINISHING VOC LIMITS

19 (values in pounds of VOC per gallon of coating, minus water and
20 exempt solvent (compounds not defined as VOC), as applied)

21	22 COATING CATEGORY	23 VOC [EMISSION RATES] <u>CONTENT</u>
24	<u>LIMITS</u>	
25	Adhesion Promoter	4.5
26		
27	Clear Coating	2.1
28		
29	Color Coating	3.5
30		
31	Multi-color Coating	5.7
32		
33	Pretreatment Coating	5.5
34		
35	Primer	2.1
36		
37	Primer Sealer	2.1
38		
39	Single-stage Coating	2.8
40		
41	Temporary Protective Coating	0.5
42		
43	Truck Bed Liner Coating	2.6
44		
45	Underbody Coating	3.6
46		
47	Uniform Finish Coating	4.5
48		
49	Any Other Coating Type	2.1

50
51 **R307-354-5. Work Practice and Recordkeeping.**

52 (1) Control techniques and work practices are to be implemented

1 at all times to reduce VOC emissions[~~from fugitive type sources~~].

2 Control techniques and work practices include:

- 3 (a) Tight fitting covers for open tanks;
- 4 (b) Covered containers for solvent wiping cloths;
- 5 (c) Collection hoods for areas where solvent is used for
- 6 cleanup;
- 7 (d) Minimizing spill of VOC-containing cleaning materials;
- 8 (e) Conveying VOC-containing materials from one location to
- 9 another in closed containers or pipes; and
- 10 (f) Cleaning spray guns in enclosed systems or a non-enclosed
- 11 paint gun cleaner may be used if the vapor pressure of the cleaning
- 12 solvent is less than 100 mm Hg at 68 degrees Fahrenheit and the solvent
- 13 is directed towards a drain that leads directly to an enclosed remote
- 14 reservoir.

15 (2) Application equipment requirements:

16 (a) A person shall not apply any coating to an automotive part

17 or component unless the coating application method achieves a

18 demonstrated 65% transfer efficiency.

19 (b) The following coating application methods have been

20 demonstrated to achieve a minimum of 65% transfer efficiency:

21 (i) Brush, dip or roll coating operated in accordance with the

22 manufacturers specifications;

23 (ii) Electrostatic application equipment operated in

24 accordance with the manufacturers specifications; and

25 (iii) High Volume, Low Pressure spray equipment operated in

26 accordance with the manufacturers specifications.

27 (c) Other coating application methods may be used that have

28 been demonstrated to be capable of achieving at least 65% transfer

29 efficiency, as certified by the manufacturer.

30 (3) All sources subject to R307-354 shall maintain records

31 demonstrating compliance with[~~all provisions of~~] R307-354-4 and

32 R307-354-5[~~on an annual basis~~].

33 (a) Records shall include, but not be limited to, inventory

34 and product data sheets of all coatings and solvents subject to

35 R307-354.

36 (b) These records shall be available to the director upon

37 request.

38

39 **R307-354-6. [Optional] Add-On Controls Systems Operations.**

40 [~~—(1)—The owner or operator may install and maintain an~~

41 ~~incinerator, carbon adsorption, or any other add-on emission control~~

42 ~~device, provided that the emission control device will attain at least~~

43 ~~90% efficiency performance.~~

44 [~~—(2)—The owner or operator of a control device shall provide~~

45 ~~documentation that the emission control system will attain the~~

46 ~~requirements of R307-354-6.~~

47 [~~—(3)—Emission control systems shall be operated and maintained~~

48 ~~in accordance with the manufacturer recommendations. The owner or~~

49 ~~operator shall maintain for a minimum of two years records of operating~~

50 ~~and maintenance sufficient to demonstrate that the equipment is being~~

51 ~~operated and maintained in accordance with the manufacturer~~

52 ~~recommendations.]~~

1 (1) The owner or operator shall install and maintain an
2 incinerator, carbon adsorption, or any other add-on emission control
3 system, provided that the emission control system is operated and
4 maintained in accordance with the manufacturer recommendations in
5 order to maintain at least 90% capture and control efficiency.
6 Determination of overall capture and control efficiency shall be
7 determined using EPA approved methods, as follows.

8 (a) The capture efficiency of a VOC emission control system's
9 VOC collection device shall be determined according to EPA's
10 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
11 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

12 (b) The control efficiency of a VOC emission control system's
13 VOC control device shall be determined using test methods in Appendices
14 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
15 gaseous organic concentrations, or emissions of exempt compounds,
16 as applicable.

17 (c) An alternative test method may be substituted for the
18 preceding test methods after review and approval by the EPA
19 Administrator.

20 (2) The owner or operator of a control system shall provide
21 documentation that the emission control system will attain the
22 requirements of R307-354-6(1).

23 (3) The owner or operator shall maintain records of key system
24 parameters necessary to ensure compliance with R307-354-6. Key system
25 parameters may include, but are not limited to, temperature, pressure
26 and flow rates. Operator inspection schedule, monitoring,
27 recordkeeping, and key parameters shall be in accordance with the
28 manufacturer's recommendations, and as required to demonstrate
29 operations are providing continuous emission reduction from the source
30 during all periods that the operations cause emissions from the source.

31 (4) The owner or operator shall maintain for a minimum of two
32 years records of operating and maintenance sufficient to demonstrate
33 that the equipment is being operated and maintained in accordance
34 with the manufacturer recommendations.

35
36
37 **[R307-354-7. Compliance Schedule.**

38 ~~_____ All sources within Box Elder, Cache, Davis, Salt Lake, Tooele,~~
39 ~~Utah, and Weber counties shall be in compliance with this rule by~~
40 ~~July 1, 2014.]~~

41
42 **KEY: air pollution, automotive refinishing, VOC, coatings**
43 **Date of Enactment or Last Substantive Amendment: [February 1,**
44 **2013]2014**

45 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-355. Control of Emissions from Aerospace Manufacture and Rework**
3 **Facilities.**

4 **R307-355-1. Purpose.**

5 The purpose of R307-355 is to limit the emissions of volatile
6 organic compounds (VOCs) from aerospace coatings and adhesives, from
7 organic solvent cleaning, and from the storage and disposal of solvents
8 and waste solvent materials associated with the use of aerospace
9 coatings and adhesives.

10
11 **R307-355-2. Applicability.**

12 R307-355 applies to all aerospace manufacture and rework
13 facilities that have the potential to emit 10 tons or more per year
14 of VOCs and that are located in Box Elder, Cache, Davis, Salt Lake,
15 Utah, Tooele and Weber counties.

16
17 **R307-355-3. Exemptions.**

18 (1) R307-355 does not apply:

19 (a) Where cleaning and coating takes place in research and
20 development, quality control, laboratory testing and electronic parts
21 and assemblies, except for cleaning and coating of completed
22 assemblies;

23 (b) To manufacturing or rework operations involving space
24 vehicles; and

25 (c) To rework operations performed on antique aerospace
26 vehicles or components.

27
28 **R307-355-4. Definitions.**

29 The following additional definitions apply to R307-355:

30 "Aerospace manufacture" and "rework facility" means any
31 installation that produces, reworks, or repairs in any amount any
32 commercial, civil, or military aerospace vehicle or component.

33 "Antique aerospace vehicle or component" means an aircraft or
34 component thereof that was built at least 30 years ago and would not
35 routinely be in commercial or military service in the capacity for
36 which it was designed.

37 "Chemical milling maskants" means a coating that is applied
38 directly to aluminum components to protect surface areas when chemical
39 milling the component with a Type I or Type II etchant. Type I chemical
40 milling maskants are used with a Type I etchant and Type II chemical
41 milling maskants are used with a Type II etchant.

42 "Exempt solvents" means organic chemicals that are not defined
43 as VOC.

44 "General aviation rework facility" means any aerospace
45 installation with the majority of its revenues resulting from the
46 reconstruction, repair, maintenance, repainting, conversion, or
47 alteration of general aviation aerospace vehicles or components.

48 "Low vapor pressure hydrocarbon-based cleaning solvent" means
49 a cleaning solvent that is composed of a mixture of photochemically
50 reactive hydrocarbons and oxygenated hydrocarbons and has a maximum
51 vapor pressure of 7 mm Hg at 68 degrees Fahrenheit. These cleaners

1 must not contain hazardous air pollutants.

2 "Space vehicle" means a man-made device, either manned or
3 unmanned, designed for operation beyond earth's atmosphere. This
4 definition includes integral equipment such as models, mock-ups,
5 prototypes, mold, jigs, tooling, hardware jackets and test coupons.

6 Also included, auxiliary equipment associated with test, transport
7 and storage that through contamination can compromise the space
8 vehicle performance.

9 "Specialty coating" means a coating that, even though it meets
10 the definition of a primer, topcoat, or self-priming topcoat, has
11 additional performance criteria beyond those of primers, topcoats,
12 and self-priming topcoats for specific applications.

13 (1) These performance criteria may include, but are not limited
14 to, temperature or fire resistance, substrate compatibility,
15 antireflection, temporary protection or marking, sealing, adhesively
16 joining substrates, or enhanced corrosion protection.

17 (2) Individual specialty coatings are defined in Appendix A
18 of 40 CFR 63 subpart GG, which is incorporated by reference.

19 "Topcoat" means a coating that is applied over a primer or
20 component for appearance, identification, camouflage, or protection.

21 Topcoats that are defined as specialty coatings are not included
22 under this definition.

23
24 **R307-355-5. [Emission Standards]VOC Content Limits.**

25 (1) The owner or operator shall not [~~cause, permit, or~~
26 ~~allow~~] apply [the emissions of VOCs from the] coatings to aerospace
27 vehicles or components with a VOC content in excess as follows [~~of~~
28 ~~aerospace vehicles or components to exceed~~]:

29 (a) 2.9 pounds per gallon of coating, excluding water and exempt
30 solvents, delivered to a coating applicator that applies primers.
31 For general aviation rework facilities, the VOC limitation shall be
32 4.5 pounds per gallon of coating, excluding water and exempt solvents,
33 delivered to a coating applicator that applies primers;

34 (b) 3.5 pounds per gallon of coating, excluding water and exempt
35 solvents, delivered to a coating applicator that applies topcoats
36 (including self-priming topcoats). For general aviation rework
37 facilities, the VOC limit shall be 4.5 pounds per gallon of coating,
38 excluding water and exempt solvents, delivered to a coating applicator
39 that applies topcoats (including self-priming topcoats);

40 (c) 5.2 pounds per gallon of coating, excluding water and exempt
41 solvents, delivered to a coating applicator that applies Type I
42 chemical milling maskant;

43 (d) 1.3 pounds per gallon of coating, excluding water and exempt
44 solvents, delivered to a coating applicator that applies Type II
45 chemical milling maskants; and

46 (e) Emissions of VOCs from specialty coatings in excess of the
47 amounts specified in EPA-453/R-97-004, December 1997, page B-2, hereby
48 incorporated by reference.

49 (2) The owner or operator may alternatively comply with
50 R307-355-5(1)(a) through (d) by using an add-on control device as
51 specified in R307-355-9.

1 (3) The following coating applications are exempt from the VOC
2 content limits in R307-355-5(1);

- 3 (a) Touchup and repair operations.
- 4 (b) Use of hand-held spray can application method.
- 5 (c) Department of Defense classified coatings.
- 6 (d) Coatings of space vehicles.
- 7 (e) Facilities that use separate formulations in volumes of
8 less than 50 gallons per year subject to a maximum exemption of 200
9 gallons total for such formulations applied annually.

10
11 **R307-355-6. Application Method.**

12 (1) No owner or operator shall apply any primer or topcoat unless
13 the primer and topcoat is applied with equipment operated according
14 to the equipment manufacturer specifications or by the use of one
15 of the following methods:

- 16 (a) Electrostatic application;
- 17 (b) Flow/curtain coat;
- 18 (c) Dip/electrodeposition coat;
- 19 (d) Roll coat;
- 20 (e) Brush coating;
- 21 (f) cotton-tipped swab application;
- 22 (g) High-Volume, Low-Pressure (HVLV) Spray;
- 23 (h) Hand Application Methods; or
- 24 (i) Other coating application methods that achieve emission
25 reductions equivalent to HVLV or electrostatic spray application
26 methods, as determined according to the requirements in 40 CFR
27 63.750(i).

28 (2) The following conditions are exempt from R307-355-6(1):

29 (a) Any situation that normally requires the use of an airbrush
30 or an extension on the spray gun to properly reach limited access
31 spaces.

32 (b) The application of coatings that contain fillers that
33 adversely affect atomization with HVLV spray guns and that cannot
34 be applied by any of the application methods specified in R307-355-6.

35 (c) The application of coatings that normally have dried film
36 thickness of less than 0.0013 centimeters (0.0005 inches) and that
37 cannot be applied by any of the application methods specified in
38 R307-355-6.

39 (d) The use of airbrush application methods for stenciling,
40 lettering, and other identification markings.

41 (e) The use of hand-held spray can application methods.

42 (f) Touch-up and repair operations.

43 (g) Application of specialty coatings.

44
45 **R307-355-7. Work Practices and Recordkeeping.**

46 (1) Control techniques and work practices shall be implemented
47 at all times to reduce VOC emissions[~~from fugitive type sources~~].
48 Control techniques and work practices shall include, but are not
49 limited to:

50 (a) Storing all VOC-containing coatings, adhesives, thinners,
51 and coating-related waste materials in closed containers;

1 (b) Ensuring that mixing and storage containers used for
2 VOC-containing coatings, adhesives, thinners, and coating-related
3 waste material are kept closed at all times except when depositing
4 or removing these materials;

5 (c) Minimizing spills of VOC-containing coatings, adhesives,
6 thinners, and coating-related waste materials; and

7 (d) Conveying VOC-containing coatings, adhesives, thinners,
8 and coating-related waste materials from one location to another in
9 closed container or pipes.

10 (2) All sources subject to R307-355 shall maintain records
11 demonstrating compliance with~~[all provisions of]~~ R307-355-5,
12 R307-355-6 and R307-355-8~~[on an annual basis]~~.

13 (a) Records shall include, but not be limited to, inventory
14 and product data sheets of all coatings and solvents subject to
15 R307-355.

16 (b) These records shall be available to the Director upon
17 request.

18
19 **R307-355-8. Solvent Cleaning.**

20 (1) Hand-wipe cleaning. Cleaning solvents used in hand-wipe
21 cleaning operations shall meet one of the following requirements:

22 (a) Have a VOC composite vapor pressure less than or equal to
23 45 mm Hg at 68 degrees Fahrenheit;

24 (b) Have an aqueous cleaning solvent in which water is at least
25 80% of the solvent as applied; or

26 (c) Have a low vapor pressure hydrocarbon-based cleaning
27 solvent.

28 (2) The following exemptions apply:

29 (a) Cleaning during the manufacture, assembly, installation,
30 maintenance, or testing of components of breathing oxygen systems
31 that are exposed to the breathing oxygen.

32 (b) Cleaning during the manufacture, assembly, installation,
33 maintenance, or testing of parts, subassemblies, or assemblies that
34 are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide,
35 liquid oxygen, hydrazine).

36 (c) Cleaning and surface activation prior to adhesive bonding.

37 (d) Cleaning of electronics parts and assemblies containing
38 electronics parts.

39 (e) Cleaning of aircraft and ground support equipment fluid
40 systems that are exposed to the fluid, including air-to-air heat
41 exchangers and hydraulic fluid systems.

42 (f) Cleaning of fuel cells, fuel tanks, and confined spaces.

43 (g) Surface cleaning of solar cells, coated optics, and thermal
44 control surfaces.

45 (h) Cleaning during fabrication, assembly, installation, and
46 maintenance of upholstery, curtains, carpet, and other textile
47 materials used on the interior of the aircraft.

48 (i) Cleaning of metallic and nonmetallic materials used in
49 honeycomb cores during the manufacture or maintenance of these cores,
50 and cleaning of the completed cores used in the manufacture of
51 aerospace vehicles or components.

1 (j) Cleaning of aircraft transparencies, polycarbonate, or
2 glass substrates.

3 (k) Cleaning and solvent usage associated with research and
4 development, quality control, or laboratory testing.

5 (1) Cleaning operations, using nonflammable liquids, conducted
6 within five feet of energized electrical systems.

7 (3) Flush cleaning. Cleaning solvents used in flush cleaning
8 of parts, assemblies and coating unit components must be emptied into
9 an enclosed container or collection system that is kept closed when
10 not in use.

11 (4) Spray gun cleaning. All spray guns shall be cleaned by one
12 or more of the following methods:

13 (a) Enclosed system that is closed at all times except when
14 inserting or removing the spray gun. If leaks in the system are found,
15 repairs shall be made as soon as practicable, but no later than 15
16 days after the leak was found. If the leak is not repaired by the
17 15th day, the cleaning solvent shall be removed and the enclosed
18 cleaner shall be shut down until the leak is repaired or its use is
19 permanently discontinued.

20 (b) Nonatomized cleaning.

21 (i) Spray guns shall be cleaned by placing cleaning solvent
22 in the pressure pot and forcing it through the gun with the atomizing
23 cap in place.

24 (ii) No atomizing air is to be used.

25 (iii) The cleaning solvent from the spray gun shall be directed
26 into a vat, drum, or other waste container that is closed when not
27 in use.

28 (c) Disassembled spray gun cleaning.

29 (i) Spray guns shall be cleaned by disassembling and cleaning
30 the components by hand in a vat, which shall remain closed at all
31 times except when in use.

32 (ii) Spray gun components shall be soaked in a vat, which shall
33 remain closed during the soaking period and when not inserting or
34 removing components.

35 (d) Atomizing spray into a waste container that is fitted with
36 a device designed to capture atomized solvent emissions.

37 (e) Cleaning of the nozzle tips of automated spray equipment
38 systems, except for robotic systems that can be programmed to spray
39 into a closed container, shall be exempt from these requirements.

40
41 **R307-355-9. [~~Optional~~]Add-On Controls Systems Operations.**

42 [~~—(1)—The owner or operator may install and maintain an~~
43 ~~incinerator, carbon adsorption, or any other add on emission control~~
44 ~~device, provided that the emission control device will attain at least~~
45 ~~81% efficiency performance.~~

46 [~~—(2)—The owner or operator of a control device system shall~~
47 ~~provide documentation that the emission control system will attain~~
48 ~~the requirements of R307-355-9.~~

49 [~~—(3)—Emission control systems shall be operated and maintained~~
50 ~~in accordance with the manufacturer recommendations. The owner or~~
51 ~~operator shall maintain for a minimum of two years records of operating~~

1 ~~and maintenance sufficient to demonstrate that the equipment is being~~
2 ~~operated and maintained in accordance with the manufacturer~~
3 ~~recommendations.]~~

4 (1) The owner or operator shall install and maintain an
5 incinerator, carbon adsorption, or any other add-on emission control
6 system, provided that the emission control system is operated and
7 maintained in accordance with the manufacturer recommendations in
8 order to maintain at least 81% capture and control efficiency.
9 Determination of overall capture and control efficiency shall be
10 determined using EPA approved methods, as follows.

11 (a) The capture efficiency of a VOC emission control system's
12 VOC collection device shall be determined according to EPA's
13 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
14 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

15 (b) The control efficiency of a VOC emission control system's
16 VOC control device shall be determined using test methods in Appendices
17 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
18 gaseous organic concentrations, or emissions of exempt compounds,
19 as applicable.

20 (c) An alternative test method may be substituted for the
21 preceding test methods after review and approval by the EPA
22 Administrator.

23 (2) The owner or operator of a control system shall provide
24 documentation that the emission control system will attain the
25 requirements of R307-355-9(1).

26 (3) The owner or operator shall maintain records of key system
27 parameters necessary to ensure compliance with R307-355-9. Key system
28 parameters may include, but are not limited to, temperature, pressure
29 and flow rates. Operator inspection schedule, monitoring,
30 recordkeeping, and key parameters shall be in accordance with the
31 manufacturer's recommendations, and as required to demonstrate
32 operations are providing continuous emission reduction from the source
33 during all periods that the operations cause emissions from the source.

34 (4) The owner or operator shall maintain for a minimum of two
35 years records of operating and maintenance sufficient to demonstrate
36 that the equipment is being operated and maintained in accordance
37 with the manufacturer recommendations.

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40 ~~[R307-355-10. Compliance Schedule.~~

41 ~~—All sources within Box Elder, Cache, Davis, Salt Lake, Tooele,~~
42 ~~Utah and Weber counties shall be in compliance by January 1, 2014.]~~
43

44 **KEY: air pollution, coating, aerospace**

45 **Date of Enactment or Last Substantive Amendment: [February 1,**
46 **2013]2014**

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