R307-343-1. Purpose.
The purpose of R307-343 is to limit volatile organic compound (VOC) emissions from wood furniture manufacturing operations.

R307-343 applies to wood furniture manufacturing operations, including related cleaning activities, that [have the potential to emit 2.7 tons or more per year of VOCs and that are] use a combined 20 gallons or more of coating products and associated solvents per year and are located in Box Elder, Cache, Davis, Salt Lake, Utah, Tooele, [and] or Weber counties.

The following additional definitions apply to R307-343:
["Affected source" means a wood furniture manufacturing source that meets the criteria in R307-343-2.]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

"Wood furniture" means any product made of wood that is manufactured under any of the following standard industrial classification codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, 2599, or 5712. This includes wood products such as rattan or wicker and engineered wood products such as particleboard that is manufactured under any of the following standard industrial classification codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, 2599, or 5712.

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

R307-343-4. VOC Content Limits.

(1) Each affected source subject to R307-343 shall limit VOC emissions by:
   (a) Using the compliant coating method as described in R307-343-4(1)(a)(i) or using the control system method as described in R307-343-4(1)(a)(ii).

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

   No owner or operator shall apply coatings with a VOC content in excess of the amounts specified in Table 1, unless the owner or operator uses an add-on control device as specified in R307-343-6.

[TABLE 1

<table>
<thead>
<tr>
<th>COATING CATEGORY</th>
<th>VOC Content Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>TOPCOATS</td>
<td></td>
</tr>
<tr>
<td>Effective Through</td>
<td>Effective Beginning</td>
</tr>
<tr>
<td>December 31, 2014</td>
<td>January 1, 2015</td>
</tr>
<tr>
<td>Topcoat</td>
<td>0.8</td>
</tr>
<tr>
<td>Sealer</td>
<td>0.9</td>
</tr>
<tr>
<td>Acrylic, alkyd amino</td>
<td></td>
</tr>
<tr>
<td>Topcoat/sealer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>TOPCOAT/SEALER COMBINATION</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>TOPCOAT</td>
<td>1.8</td>
</tr>
<tr>
<td>SEALER</td>
<td>1.9</td>
</tr>
<tr>
<td>Acrylic, alkyd amino</td>
<td></td>
</tr>
<tr>
<td>Topcoat/sealer</td>
<td></td>
</tr>
</tbody>
</table>


Table 1

WOOD MANUFACTURING COATING LIMITS
(values in pounds VOC per pound of coating, minus water and exempt solvents (compounds not classified as VOC as defined in R307-101-2), as applied)

<table>
<thead>
<tr>
<th>Coating Category</th>
<th>VOC Content Limit (lb/lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topcoat</td>
<td>0.4</td>
</tr>
<tr>
<td>Single component, non-catalyzed sealer</td>
<td>0.9</td>
</tr>
<tr>
<td>Single component, non-catalyzed topcoat</td>
<td>0.9</td>
</tr>
<tr>
<td>Acid – cured single and 2 component sealer</td>
<td>1.2</td>
</tr>
<tr>
<td>Acid – cured single and 2 component topcoat</td>
<td>1.0</td>
</tr>
<tr>
<td>2 component polyurethane topcoat</td>
<td>1.0</td>
</tr>
<tr>
<td>2 component polyurethane sealer</td>
<td>1.0</td>
</tr>
<tr>
<td>Cobalt peroxide cured polyester sealer/topcoat</td>
<td>1.0</td>
</tr>
<tr>
<td>Formaldehyde free acid catalyzed sealer/topcoat</td>
<td>1.0</td>
</tr>
<tr>
<td>Strippable spray booth coatings</td>
<td>0.8</td>
</tr>
</tbody>
</table>

[(iii) Control system method is the use of a VOC control system achieving a 85% or greater emissions reduction.
(b) Using strippable spray booth coatings that contain no greater than 0.8 pounds VOC per pound solids as applied.
(e) Using closed containers for the storing of finishing, gluing, cleaning and washoff materials.]

(2) The limits in Table 1 do not apply to canned aerosol coating products less than 22 fl. oz. (0.66 liter) capacity and used exclusively for touch-up or repair.

(1) All coatings shall be applied using equipment having a minimum 65% transfer efficiency, except as allowed under R307-343-5(3) and operated according to the equipment manufacturer specifications. Equipment meeting the transfer efficiency requirement includes:
(a) Brush, dip, or roll coating;
(b) Electrostatic application; and
(c) High volume, low pressure (HVLP) spray equipment.
(2) Other coating application methods that achieve transfer efficiency equivalent to HVLP or electrostatic spray application methods may be used.
(3) Conventional air spray methods may be used under the following circumstances:
   (a) To apply finishing materials that have no greater than 1.0 pound of VOC per pound of solids, as applied;
   (b) For touch-up and repair under the following circumstances:
       (i) The touch-up and repair occurs after completion of the finishing operation; or
       (ii) The touch-up and repair occurs after the application of stain and before the application of any other type of finishing material, and the materials used for touch-up and repair are applied from a container that has a volume of no more than 2.0 gallons;
   (c) When the spray gun is aimed and [triggered] operated automatically, not manually;
   (d) When the emissions from the finishing application station are directed to a control device as specified in R307-343-6:
   (e) When the conventional air gun is used to apply [finishing materials and the cumulative total usage of that finishing material is] no more than 10% of the total gallons of finishing material used during the calendar year; or
   (f) When the conventional air gun is used to apply stain on a part for which it is technically or economically infeasible to use any other spray application technology. The following criteria shall be used, either independently or in combination, to support the affected source's claim of technical or economic infeasibility:
       (i) The production speed is too high or the part shape is too complex for one operator to coat the part and the application station is not large enough to accommodate an additional operator; or
       (ii) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

(1) If an add-on control system is used, the owner or operator shall install and maintain the add-on emission control system in accordance with the manufacturer recommendations and maintain at least 85% or greater capture and control efficiency. The overall capture and control efficiency shall be determined using EPA approved methods, as follows.
   (a) The capture efficiency of a VOC emission control system's VOC collection device shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.
   (b) The control efficiency of a VOC emission control system's VOC control device shall be determined using test methods in Appendices A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total gaseous organic concentrations, or emissions of exempt compounds, as applicable.
   (c) An alternative test method may be substituted for the preceding test methods after review and approval by the EPA Administrator.
(2) The owner or operator of a control system shall provide documentation that the emission control system will attain the requirements of R307-343-6(1).
(3) The owner or operator shall maintain records of key system parameters necessary to
ensure compliance with R307.343.6. Key system parameters may include, but are not limited to, temperature, pressure and flow rates. Operator inspection schedule, monitoring, recordkeeping, and key parameters shall be in accordance with the manufacturer's recommendations, and as required to demonstrate operations are providing continuous emission reduction from the source during all periods that the operations cause emissions from the source.

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

(1) Control techniques and work practices for coatings shall be implemented at all times to reduce VOC emissions from fugitive type sources. Control techniques and work practices shall include:

(a) Storing all VOC-containing coatings, thinners, and coating-related waste materials in closed containers;
(b) Ensuring that mixing and storage containers used for VOC-containing coatings, thinners, and coating-related waste material are kept closed at all times except when depositing or removing these materials;
(c) Minimizing spills of VOC-containing coatings, thinners, and coating-related waste materials; and
(d) Conveying VOC-containing coatings, thinners, and coating-related waste materials from one location to another in closed containers or pipes.

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

(a) Storing all VOC-containing cleaning materials and used shop towels in closed containers;
(b) Ensuring that storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials;
(c) Minimizing spills of VOC-containing cleaning materials;
(d) Conveying VOC-containing cleaning materials from one location to another in closed containers or pipes; and
(e) Minimizing VOC emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(3) All persons shall perform solvent cleaning operations with cleaning material having VOC content (excluding compounds not classified as VOC) of 0.21 pounds per gallon or less.  
(4) For each calendar year, all sources subject to R307-343 shall maintain records demonstrating compliance with R307-343.4, R307-343.5 and R307-343.7

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

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

(3) Solvent cleaning operations shall be performed using cleaning materials having a VOC composite vapor pressure no greater than 1 mm Hg or less at 20 degrees Celsius, unless an add-on control device is used as specified in R307-343-6.
R307-343.8 Recordkeeping.
   (1) The owner or operator shall maintain records of the following:
      (a) Records that demonstrate compliance with R307-343. Records must include, but are not
          limited to, inventory and product data sheets of all coatings and solvents subject to R307-343.
      (b) If an add-on control device is used, records of key system parameters necessary to
          ensure compliance with R307-343-6.
          (i) Key system parameters shall include, but are not limited to, temperature, pressure, flow
              rates, and an inspection schedule.
          (ii) Key inspection parameters shall be in accordance with the manufacturer's
               recommendations, and as required to demonstrate operations are providing continuous emission
               reduction from the source during all periods that the operations cause emissions from the source.
   (2) All records shall be maintained for a minimum of 2 years.
   (3) Records shall be made available to the director upon request.

KEY: air pollution, wood furniture, coatings

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