

**MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 342
COATING WOOD FURNITURE AND FIXTURES**

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**MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 342
COATING WOOD FURNITURE AND FIXTURES**

SECTION 100 – GENERAL

- 101 PURPOSE:** To limit emissions of volatile organic compounds (VOC) from the surface preparation and coating of wood furniture and fixtures.
- 102 APPLICABILITY:** The provisions of this rule apply to any facility in Maricopa County applying finishing material to furniture or fixtures made of wood or wood derived material. Simplified provisions of Appendix B in this rule may be used by facilities which agree to a permit limit of less than 10 tons (9.1 megagrams (Mg)) of VOC emissions per year. For sources emitting less than 2 tons (1.8 Mg) of VOC per year, refer to Section 103.2(d) of this rule. This rule does not apply to the coating of any millwork included under SIC code #2431 (Millwork).

**Table 342-1
APPLICABLE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES***

Standard Industrial Classification (SIC) code	SIC Title
2434	Wood Kitchen Cabinets
2511	Wood Household Furniture, Except Upholstered
2512	Wood Household Furniture, Upholstered
2517	Wood Television, Radio, Phonograph, and Sewing Machine Cabinets
2519	Household Furniture, Not Elsewhere Classified
2521	Wood Office Furniture
2531	Public Building and Related Furniture
2541	Wood Office and Store Fixtures, Partitions, Shelving, and Lockers
2599	Furniture and Fixtures, Not Elsewhere Classified
2515	Mattresses, Foundations, and Convertible Beds

*Per the United States Department of Labor Occupational Safety and Health Administration. Web access at <https://osha.gov/index.html>

103 EXEMPTIONS:

103.1 Total Exemptions:

- a. This rule does not apply to the coating of any millwork included under SIC code 2431 Millwork.
- b. The following materials are exempt from this rule:
 - (1) Adhesives.

- (2) Architectural coatings.
- (3) Printing ink.
- (4) Coatings that are not applied on or over a wood product substrate.
- c. Sources subject to Rule 342 are exempt from the following Maricopa County Air Pollution Control Regulations:
 - (1) Rule 330 (Volatile Organic Compounds)
 - (2) Rule 336 (Surface Coating Operations)

103.2 Partial Exemptions:

- a. **Aerosol Spray Can Coating:** Coatings in aerosol spray cans not exceeding 22 fl. oz. (0.66 liter) capacity and used exclusively for touch-up and/or repairs are subject to only the reporting requirements in Section 500 of this rule.
- b. The following are exempt from the VOC limits in Section 301.1 of this rule, but shall comply with all other provisions of this rule:
 - (1) The use of the following coating types when the annual total use of all such types together is less than 250 gallons (948 liters):
 - (a) Prepackaged aerosol spray cans which are not used for touch-up or repair;
 - (b) Metal leaf finishes; and
 - (c) Faux finishes.
 - (2) Refinishing, Replacement, and Custom Replica Furniture Operations:
 - (a) Any refinishing operation necessary for preservation;
 - (b) To return the furniture or fixture to original condition;
 - (c) To replace missing furniture to produce a matching set; or
 - (d) To produce custom replica furniture.
 - (3) Stains, washcoats, glazes, toners, inks, and other coatings not specified in Section 301.1 of this rule.
- c. The coating for a single resin-layer finish which does not exceed a VOC limit of 3 lb VOC/lb solids (3 kg VOC/kg solids) for completed finishes up to 3 dry mils thickness or does not exceed 2.3 lb VOC/lb solids (2.3 kg VOC/kg solids) for finishes over 3 dry mils is exempt from the VOC limits of Section 301.1 of this rule if all of the following conditions are met:
 - (1) The containers are clearly marked "FOR USE IN SINGLE RESIN LAYER FINISH";
 - (2) Facility records clearly identify this material: "DOES NOT MEET THE VOC LIMITS OF SECTION 301, RULE 342. FOR USE ONLY IN SINGLE RESIN-LAYER FINISHES"; and

- (3) The booth used to apply a single resin-layer finish above 2.3lb VOC/lb solids (2.3 kg VOC/kg solids) is dedicated to that operation only, and is clearly labeled "FOR SINGLE RESIN-LAYER FINISHES ONLY".
- d. **Small Source Status:** A furniture coating facility which at any time demonstrates that it currently meets all the requirements in Sections 103.2(d)(1) of this rule is exempt from all provisions of this rule except for the sections listed in Section 103.2(d)(2) of this rule.
- (1) **Small Source Status Requirements:**
- (a) Facility records demonstrate that no more than a total of 55 gallons (209 liters) of VOC-containing wood-product coatings and VOC-containing solvent are used in any consecutive 12-month period; and
 - (b) The monthly total usage of VOC-containing wood-product coatings and VOC-containing solvent divided by that month's number of working days of coating application does not exceed 3.0 gallons (11.4 liters) per working day; and
 - (c) The facility emits less than 4000 pounds (1814 kg) VOC, facility-wide per year from all wood-product coating operations, all VOC-containing diluent added to coatings, all VOC-containing solvent cleaning and stripping, and VOC-containing solvent used for coating equipment cleanup.
- (2) Small Sources shall comply with all of the following sections of Rule 342:
- (a) Section 303: OPERATION AND MAINTENANCE;
 - (b) Section 304: LEAK DETECTION AND REPAIR;
 - (c) Section 306: HANDLING AND DISPOSAL OF VOC-CONTAINING MATERIAL;
 - (d) Section 400: ADMINISTRATIVE REQUIREMENTS; and
 - (e) Section 500: MONITORING AND RECORDS.
- e. **Using Conventional and other Restricted Use Guns:** In addition to the uses of restricted-use guns allowed under Sections 302.2(a), (b), and (c) of this rule, an owner or operator may use a conventional air-atomized or other restricted use gun to apply coatings exceeding 1 lb VOC/1 lb solids (1kg VOC/1 kg solids) if both of the following conditions are met:
- (1) The volume of such coating applied in this way is less than five percent (5%) of the total semi-annual volume of coating applied at the facility; and
 - (2) A log is kept pursuant to Section 501.2(c) of this rule of the amount of coating used by each such gun. This shall be done daily or each time coating is added to the gun's coating reservoir; and semi-annual calculation shall be made pursuant to Section 501.2 of this rule.

SECTION 200 – DEFINITIONS: For the purpose of this rule, the following definitions shall apply, in addition to those definitions found in Rule 100 (General Provisions and Definitions) of

these rules. In the event of any inconsistency between any of the Maricopa County Air Pollution Control Rules, the definitions in this rule take precedence.

- 201 **ADHESIVE:** Any substance, usually having a fluid phase during application, used principally to bond two or more surfaces into close proximity with one another.
- 202 **AEROSOL SPRAY COATING:** A coating which is sold in a hand-held, pressurized, non-refillable container, of less than 22 fluid ounces (0.66 liter) capacity, and which is expelled from the container in a finely divided form when a valve on the container is depressed.
- 203 **AIR-ATOMIZED SPRAY (GUN):** Equipment used to apply coatings in which the chief means of atomizing the coating is via pressurized air which also mixes into the cloud of coating particles after expulsion from a spray nozzle.
- 204 **ARCHITECTURAL COATING:** Any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements or to curbs.
- 205 **BASECOAT:** A coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other high-hiding finishing materials. A basecoated surface usually receives a topcoat.
- 206 **COATING:** Any liquid, fluid, or mastic composition which is converted to a solid (or semi-solid) protective, decorative, or adherent film or deposit after application to a substrate as a thin layer.
- 207 **CONVENTIONAL AIR-ATOMIZED SPRAY:** Any spray coating method in which the coating is atomized principally by mixing it with compressed air at an air pressure greater than 10 pounds per square inch (gauge) at the point of atomization, and which is not used with an electrostatic transfer system. Airless and air-assisted airless spray technologies are not conventional air-atomized spray because the principal means of atomizing the coating is via hydraulic pressure and not by mixing the coating with compressed air.
- 208 **CUSTOM REPLICA FURNITURE:** Furniture individually produced or repaired after an order has been received from a client specifying a particular style and period, using both the style and the methods of construction, including materials, joinery, and finishes, which are authentic to the period.
- 209 **DAY:** A period of 24 consecutive hours beginning at midnight.
- 210 **DILUENT:** For the purpose of this rule, any fluid in or added to a coating such as thinner, retarder, reducer, solvent, or drying accelerator which solubilizes, adjusts concentration, viscosity, flow, or drying rates and which evaporates as the coating film solidifies and cures.
- 211 **ELECTROSTATIC APPLICATION:** A method of applying coating by electrically charging coating droplets or particles causing their deposition onto a substrate by electrostatic attraction.
- 212 **EMISSION CONTROL SYSTEM (ECS):** A system for reducing emissions of organic compounds, consisting of both collection and control devices which are approved in writing

by the Control Officer and are designed and operated in accordance with good engineering practice.

- 213 FACILITY:** For the purpose of this rule, all the pollutant-emitting activities located on one or more contiguous or adjacent properties, under the control of the same person or persons under common control, and described by one or more of the industrial groupings listed in Section 236 of this rule.
- 214 FAUX FINISH:** A finish intended to simulate a surface other than wood, including, but not limited to, stone, sand, metal, fur and leather.
- 215 FINISHING MATERIAL:** A coating other than one designed solely or principally as an adhesive, temporary maskant, and/or preservative. For wood furniture and fixtures, finishing materials include, but are not limited to, topcoats, sealers, primers, stains, basecoats, washcoats, enamels, toners, glazes, and graining inks.
- 216 HIGH SOLIDS STAINS:** Stains which are formulated to enhance wood grain and change wood color, but not conceal surface grain. For the purpose of this rule, high solids stains are stains that contain at least 120 grams of solids per liter (1 lb/gal) of stain as applied, and can include wiping stains and glazes.
- 217 HIGH-VOLUME, LOW PRESSURE (HVLP) SPRAY GUN:** Spray equipment that is used to apply coating by means of a spray gun that operates at 10 psig of atomizing air pressure or less at the center of the air cap. A permanently affixed manufacturer's gun identification or manufacturer's gun literature shall identify and be proof of an HVLP gun.
- 218 KILOGRAMS VOC PER KILOGRAM OF COATING SOLIDS:** A measurement that is used in this rule to express the VOC content of a coating. For any coating, kilograms VOC per kilogram coating solids is numerically identical to both pounds of VOC per pound of coating solids and to grams VOC per gram of coating solids.
- 219 LOW PRESSURE SPRAY GUN:** An air-atomized spray gun which by design functions best at air cap pressures below 10 psig (0.7 bar) measured according to Section 502.2 of this rule, and for which the manufacturer makes no public claims that the gun can be used effectively above 12 psig (0.8 bar).
- 220 LOW SOLIDS STAINS:** Stains which are formulated to enhance wood grain and change wood color, but not conceal surface grain. For the purpose of this rule, low solids stains are stains that contain up to one (1) pound of solids per one gallon (120 grams of solids per liter) (1 lb/gal) of stain as applied, and include sap stain, toner, and non-grain-raising (NGR) stains.
- 221 NONPERMANENT FINAL FINISH:** A material such as wax, polish, non-oxidizing oil or similar substance which retains its effect only temporarily and must be periodically reapplied to a surface to maintain or restore the material's intended effect.
- 222 POUNDS VOC PER POUND OF COATING SOLIDS:** A measurement of a coating's VOC content identical with kilograms VOC per kilogram of coating solids.

- 223 REPAIR COATING:** A coating used to recoat portions of a previously coated product to cover mechanical damage to that previous coating following normal painting operations.
- 224 RESTRICTED-USE GUN:** Any spray gun which atomizes coating using compressed air, such that in normal use or a use advertised by the manufacturer or distributor, the air cap pressure exceeds 12 psig (0.8 bar) in measurements done pursuant to Section 500 of this rule. Restricted-use gun also includes, but is not limited to, all conventional air-atomized spray guns.
- 225 SEALER OR PRIMER:** A film-building finishing material used to seal the pores of wood or wood-derived material before additional coats of finishing material are applied. Finishing materials used primarily to alter the appearance or color of the substrate, such as stains, washcoats, glazes, inks, and toners, are not sealers.
- 226 SINGLE RESIN-LAYER FINISH:** A completed, consumer ready finish, which has received only one application of resin-based coating serving as both sealer and topcoat, and having a total average dry finish thickness from the top of the finish to the surface of the wood-product substrate not exceeding 3 mils (0.076 mm) before sanding, as determined pursuant to the test method in Section 500 of this rule. If a washcoat is also used, the finish is not a single resin-layer finish.
- 227 STAIN:** A coating, excluding sealers and topcoats, that is formulated to enhance wood grain and change wood color, but not conceal surface grain. Stain includes all high solids stains and all low solids stains.
- 228 STRIPPABLE BOOTH COATING:** A coating which is applied to spray booth surfaces to receive the overspray and protect the substrate, and which is designed to be readily pulled off in strips or sheets and disposed of.
- 229 STRIPPING OPERATION:** Any operation in which organic VOC-containing solvent is used to remove coating from a substrate.
- 230 TOPCOAT:** The last permanent, functional film-building finishing material applied to a manufactured wood product. When the wood-product substrate is already sealed with sealer, any further coats that build a functional film are topcoats. Finishing materials used primarily to alter the appearance or color of the substrate, such as stains, washcoats, glazes, inks, and toners are not topcoats. A nonpermanent final finish is not a topcoat.
- 231 TOUCH UP COATING:** A coating used to cover minor coating imperfections after the main coating operation.
- 232 TRANSFER EFFICIENCY:** The ratio of the weight of coating solids deposited on an object to the total weight of coating solids used in a coating application step or series of such steps, expressed as a percentage.
- 233 VOC-BORNE COATING:** A coating in which the volatile portion contains, by weight, more VOC than water.

- 234 VOC-CONTAINING SOLVENT:** A solvent or diluent, used to solvate, dilute, reduce, thin, clean or strip, in which the weight-percent of VOC exceeds the weight percent of water.
- 235 WASHCOAT:** A transparent special purpose coating having a solids content by mass of 12.0 percent (12.0%) or less, and which is used to seal wood-product surfaces for any of the following purposes: to prevent undesired staining, to control penetration of subsequent finishes, to provide a barrier when paper laminates are applied to the wood-product, to seal glazes, and to improve adhesion of a waterborne topcoat.
- 236 WOOD FURNITURE AND FIXTURES:** All furnishings made of wood-product that are included in Standard Industrial Classification (SIC) code 2434, 2511, 2512, 2515, 2517, 2519, 2521, 2531, or 2541.¹
- 237 WOOD-PRODUCT:** Wood or wood-derived material, such as chipboard, particle board, fiberboard, pressed board, paper, and any other material derived from wood, bamboo, cane, or rattan, that retains some of the physical structure(s) of such original material(s), even if only at a microscopic level.
- 238 WORKING DAY:** A day, or any part of a day, in which a facility is engaged in the application of VOC-containing finishing material to wood furniture or fixtures.

SECTION 300 – STANDARDS

301 LIMITATIONS – VOC CONTENT:

- 301.1** An owner or operator shall not apply a topcoat or sealer to wood furniture or fixtures or shall not apply a strippable booth coating unless VOC content is limited to the VOC limits in one of the columns in Table 342-2 below:

**Table 342-2
General VOC Limits of Coatings**

Coating Type	Lb VOC/lb solids is equivalent to kg VOC/kg solids	lb VOC /Gallon*	Grams VOC/liter*
Sealer	1.9	5.38 lb/gal	645 g/l
Topcoat	1.8	5.29 lb/gal	635 g/l
Acid-Cured Alkyd Amino Vinyl Sealer	2.3	5.67 lb/gal	680 g/l
Acid-Cured Alkyd Amino Conversion Varnish Topcoat	2.0	5.46 lb/gal	655 g/l
Strippable Booth Coating	0.8	3.0 lb/gal	360 g/l
Low VOC Topcoat (No VOC limit for Sealer when used with low VOC topcoat)	0.8	3.0 lb/gal	360 g/l

¹ This errata note is not part of Rule 342. For the reader’s convenience, Standard Industrial Classification code 2599 was inadvertently omitted from the definition of “Wood Furniture and Fixtures”. The code will be included in the definition for the next revision of this rule.

Coating Type	Lb VOC/lb solids is equivalent to kg VOC/kg solids	lb VOC /Gallon*	Grams VOC/liter*
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*less non-precursor compounds and water

301.2 Emission Control System (ECS) as an Alternative Control: A facility may meet the VOC limits of Section 301.1 of this rule if the owner or operator complies with all provisions in this rule’s Appendix C: ALTERNATIVE COMPLIANCE WITH SECTION 301 VOC LIMITS AND/OR SECTION 302 SPRAY-METHOD RESTRICTIONS BY USING AN EMISSIONS CONTROL DEVICE and with the other applicable provisions of this rule.

301.3 Averaging: An owner or operator of a larger furniture coating facility meeting the applicability requirements of subsection b., in this rule’s Appendix A: AN AVERAGING ALTERNATIVE, may comply with Section 301.1 of this rule by complying with Averaging-Formula 1 or Averaging-Formula 2 in Appendix A and by complying with all other applicable provisions of Appendix A.

301.4 Smaller Source Option: The owner or operator of a facility that has emitted two (2) or more tons (1.8 Mg) but less than ten (10) tons (9.1 Mg) per year of VOC from all wood coating and associated operations is exempted from all provisions under Sections 300, 400, and 501 (but not Sections 100, 200, and 502) if all provisions are complied with in this rule’s Appendix B: A SHORT-FORM OPTION. Sources emitting less than two (2) tons (1.8 Mg) of VOC per year may be allowed exemptions pursuant to Section 103.2(d) of this rule.

302 LIMITATION OF CONVENTIONAL AIR-ATOMIZED SPRAY AND OTHER SPRAY METHODS ATOMIZING WITH HIGH-PRESSURE AIR:

302.1 Evidence of Transfer-Efficient Spray Equipment: An owner or operator shall not spray wood furniture with coating exceeding 1 lb VOC/lb solids (1 kg VOC/kg solids) without providing evidence or manufacturer’s specifications of a low pressure spray gun or system; an HVLP spray gun; an electrostatic system; or a system in which the energy for atomization is provided principally via hydraulic pressure; this includes air assisted airless and ultra-low-volume-air assisted technologies. Such requirement does not apply to any facility, activity or person specifically exempted by Section 103 of this rule, or to any specific system which is approved by the Administrator as HVLP-equivalent.

302.2 Limitation of Air-Atomized Spray Gun other than Low Pressure or HVLP Spray Guns: An owner or operator shall not use a conventional air-atomized spray gun or other restricted use gun, except:

- a. To apply finishing materials that have a VOC content not exceeding 1.0 lb VOC/lb solids (1.0 kg/kg).
- b. If VOC emissions from the finishing application station, employing such a gun, are captured and directed to an ECS, pursuant to the provisions of Appendix C: ALTERNATIVE COMPLIANCE WITH SECTION 301 VOC LIMITS

AND/OR SECTION 302 SPRAY-METHOD RESTRICTIONS BY USING AN EMISSIONS CONTROL DEVICE.

- c. For touch-up and repair under either of the following conditions:
 - (1) The application is performed after completion of the entire finishing operation; or
 - (2) The application is performed after applying stain, and before any further coating, by equipment having a total capacity not exceeding 2.1 gallons (8 liters).
- d. To apply less than five percent (5%) of all coating pursuant to Section 103.2(e)(1) of this rule.

303 OPERATION AND MAINTENANCE: An owner or operator subject to this rule shall operate and maintain in proper working order all process equipment in which VOC-containing materials are used or stored.

304 VOC LEAK DETECTION AND REPAIR:

304.1 Leak Inspection: An owner or operator shall conduct a visual inspection once per month of pumps, valves, flanges, or other equipment used to transfer or apply VOC-containing finishing materials or VOC-containing solvents.

304.2 Leak Repair: The owner or operator shall repair a leak within the time frames listed below:

- a. A first attempt to repair a leak shall be made no later than five (5) working days after the leak was first detected.
- b. Final repairs shall be made within fifteen (15) working days after the leak was first detected unless the leaking equipment is to be either:
 - (1) Removed from service within three (3) months after the leak was first detected; or
 - (2) Replaced by a new purchase within three (3) months after the leak was first detected.

305 CLEANUP AND CLEANING SUPPLY AND APPLICATION EQUIPMENT:

305.1 Booth Cleaning: An owner or operator shall not clean spray booth components using a VOC-containing solvent containing more than eight percent (8.0%) by weight of VOC, including water and non-precursor compounds, except for: conveyors; continuous coaters and their enclosures; and metal filters and while refurbishing spray booths. If the strippable booth coating is being replaced, an owner or operator shall not use more than 1.0 gallon (3.8 liters) VOC-containing solvent per booth to clean the spray booth.

305.2 Cleaning Guns and Lines: An owner or operator shall collect all VOC-containing solvent used to clean spray guns and shall pump or drain all VOC-containing solvent used for line cleaning into non-leaking container(s). Such containers shall be closed or covered after all the VOC-containing solvent has been collected, and shall remain so except when in use.

306 HANDLING AND DISPOSAL OF VOC-CONTAINING MATERIALS:

306.1 Use and Storage: An owner or operator shall cover and keep covered each VOC-containing material intended for the day's production, which is not currently in use. An owner or operator shall store VOC-containing finishing and cleaning materials in closed containers.

306.2 Disposal of VOC and VOC-Containing Material: An owner or operator shall store all VOC-containing materials intended for disposal, including, but not limited to, rags, waste coatings, waste solvents and their residues, in closed containers which shall remain covered except when contents are being added or removed.

SECTION 400 – ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE FOR APPENDIX C: The following schedule applies, with exceptions for an Emission Control System provided in Appendix C.

401.1 Sources Emitting 50 TPY: Each facility which has applied for or received a Title V permit, or a permit with an annual VOC limit of 50 tons (45.35 Mg) or more, or which has had an aggregate VOC emission to atmosphere after December 31, 1989, of 50.0 tons (45.35 Mg) or more in any calendar year or 300 pounds (136 kg) or more in any working day, emitted in compliance with all requirements of this rule must submit a Control Plan. The Control Plan shall set forth the maximum VOC content of each coating-as-applied and provide documentation showing how these values were determined.

401.2 Other Sources: Any wood furniture and/or fixture facility with total VOC emissions to atmosphere in each of the years 1990 through 1995 of no more than 300 pounds (136 kg) in any working day and 50.0 tons (45.35 Mg) in any calendar year, emitted from wood coating operations and associated cleaning processes, which has emitted more than 25 tons (22.7 Mg) of VOC from coating operations in any of the years 1993 through 1995 must submit a Control Plan, setting forth the maximum VOC content and copies of the documentation showing how the coating-as-applied values were determined.

402 REGULATORY CLARIFICATION:

402.1 Status with Respect to Rules 330 (Volatile Organic Compounds) and 336 (Surface Coating Operations): A wood furniture or fixture coating operation is not subject to Rule 330 or to Rule 336 of these rules.

402.2 Component Materials that were Subject to Prior Regulation: The regulatory status of facilities, owners or operators is not affected by the fact that component materials, such as wood composites or paneling, may have been subject to Reasonably Available Control Technology (RACT) or other regulatory requirements in their original manufacture, before their subsequent use by a facility in Maricopa County.

402.3 Other Rules: Nothing in this rule exempts a person from complying with the NESHAP (National Emission Standards for Hazardous Air Pollutants) for coating wood furniture and fixtures or from complying with any other applicable Federal, states, and local laws or regulations.

402.4 Coating over Wood Coating(s) the same as Coating onto Wood: The VOC limits for finishing materials given in Section 301.1 of this rule apply to such coatings whether applied directly onto any area of wood-product substrate or on any intermediate layer(s) of coating on the wood-product substrate.

403 ANNUAL OPERATOR TRAINING REQUIREMENTS TO REDUCE VOC EMISSIONS:

403.1 An owner or operator shall train new and existing employees in the coating application, cleanup, and finish equipment operation if the employee uses VOC-containing materials. Training must include the following information:

- a. Proper coating application;
- b. Cleaning, washoff, and waste procedures;
- c. Proper finish equipment operation; and
- d. Methods to reduce solvent usage.

403.2 Employees hired after November 2, 2016, shall be trained upon hiring, unless previously trained within the past year.

403.3 Employees hired prior to November 2, 2016, shall be trained by May 2, 2017.

403.4 Employees shall be given refresher training annually.

403.5 Training records shall be maintained per Section 500 of this rule.

SECTION 500 – MONITORING AND RECORDS

501 RECORDKEEPING AND REPORTING: An owner or operator shall keep the following records and lists in a consistent and complete manner and shall make them available to the Control Officer without delay during normal business hours. Each record shall be maintained a minimum of five (5) years.

501.1 Current List:

- a. **VOC-Containing Materials:** A current list of all VOC-containing material shall be maintained which contains their name or code and their VOC content. Any qualified single resin-layer finish shall be identified as such. VOC-containing material list shall be updated by the end of the following month.
- b. **Mix Ratios:** A current list of VOC-containing mix ratios for catalyst/hardeners shall be maintained if the manufacturer's recommended mix ratio is not followed or when the manufacturer has no recommendations.

501.2 Schedule for Recording Material Usage:

- a. **Daily Updates for Non-Compliant Material:** The amount of each working day's use of each topcoat, sealer or booth material that exceeds applicable VOC limits of Section 301 or Section 305 of this rule shall be totaled and logged by the end of the following working day. VOC content shall be entered for each such material.

b. Monthly Update for Materials Compliant with Sections 301 and 305 of this Rule: By the end of the following month, an owner or operator shall update the following records for each month:

- (1) For each topcoat and sealer to which reducer is added at any time after its arrival at a facility, enter the VOC content in lb VOC/lb solids (kg VOC/kg solids) or in lb VOC/gal (grams VOC/liter), less water and non-precursor organic compounds. This requirement shall not apply if the reducer is itself compliant with respective topcoat's and sealer's VOC limit in Table 342-2 of this rule.
- (2) The amount of coating, the amount of catalyst/hardener, and the amount of reducer/coating diluent used.
- (3) The quantity and name of VOC-containing solvent used each month for stripping and cleaning.
- (4) The quantity of VOC-containing solvent disposed of offsite during the month just ended.
- (5) **Exception:** Update yearly the totals of the usage of each VOC-containing material known to be used in amounts less than 15 gallons (57 liters) per year.

c. Semi-Annual Updates of Coatings Applied with Restricted Use Gun:

Records associated with the Section 302 limitations on the use of conventional air-atomized spray equipment and other restricted-use guns shall be kept. These records shall show for each semi-annual period the volume (VR) of finishing materials exceeding solids (1 lb VOC/ lb solids) (1 kg VOC/kg solids) applied with conventional air-atomized spray guns and other restricted use guns. In addition, the total volume of all finishing material (AMV) used throughout the facility shall be determined. The total volume (VR) so applied over the previous six-months is divided by the total of all coatings used in the same period (AMV) and these calculations and the result are entered in the log.

501.3 Disposal/Recovery: An owner or operator shall keep records of disposal/recovery of all VOC-containing materials.

501.4 Monthly VOC Leak Detection Inspection and Repair Records: The owner or operator shall maintain monthly leak detection and repair records that document, at a minimum, the following:

- a. Name of person conducting the leak detection inspection.
- b. The date the inspection was conducted.
- c. The equipment inspected.
- d. Any leaks that were detected or, note if no leaks were detected.
- e. If a leak was detected, then include all of the following information on the inspection record:
 - (1) The date the leak was detected.
 - (2) The date of the first attempt of repair.

- (3) The results of the first attempt of repair.
- (4) The date and results of subsequent repairs, if necessary.
- (5) The results and date of the final repair.

501.5 Annual Operator Training Records Required by Section 403 of this Rule: The owner or operator shall maintain a copy of the training program and shall include, at a minimum, the following:

- a. A list of employees trained and date trained; and
- b. Training material used for training.

502 COMPLIANCE DETERMINATION – TEST METHODS INCORPORATED BY REFERENCE: The following test methods are approved for use for the purpose of determining compliance with this rule. The test methods are incorporated by reference in Appendix G of the Maricopa County Air Pollution Control Regulations. Alternative test methods as approved by the Administrator or other EPA-approved test methods may be used upon prior written approval from the Control Officer. When more than one test method is permitted for the same determination, an exceedance under any method will constitute a violation.

502.1 Measurement of VOC Content: EPA TEST METHOD 24—DETERMINATION OF VOLATILE MATTER CONTENT, WATER CONTENT, DENSITY, VOLUME SOLIDS, AND WEIGHT SOLIDS OF SURFACE COATINGS (40 CFR 60, Appendix A-7) shall be used to determine the VOC content and the solids content by weight of the coating materials.

502.2 Measurement of air pressure at the center of the spray gun air cap of a conventional air-atomized spray gun (reference Section 302) shall be performed using a device in proper working order supplied by the gun's manufacturer for performing such a measurement.

502.3 Measurement of mil thickness to determine compliance with single resin-layer finish parameters in Section 227 of this rule and Section 103.2(c) of this rule shall be performed by draw bar and calculations using the weight and area of the film and the density of the cured coating solids, by a Tooke Inspection Gage according to the instructions of its manufacturer, or by other means used for the purpose by a major coating manufacturer's laboratory or quality control.

**MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 342
COATING WOOD FURNITURE AND FIXTURES**

**APPENDIX A
AN AVERAGING ALTERNATIVE**

- a. **Purpose:** The averaging provisions of this Appendix to Rule 342 allow the owner or operator of a furniture coating facility, which meets eligibility requirements, increased options in choosing coating types. These provisions expand the range of the allowable VOC contents of coatings while limiting overall VOC emissions to amounts less than would be emitted at the VOC-content limits of Section 301.1 of this rule.
- b. **Eligibility to Apply:** The owner or operator of any furniture coating operation, reasonably capable of annually emitting more than 25 tons (22.7 Mg) of VOC and having at least one of the following four statuses with respect to VOC emissions, may apply to average:
- (1) Has emitted more than 25 tons (22.7 Mg) of VOC in any year since 1989 and has a Maricopa County Air Quality Permit or is under consideration for such permit by the Control Officer;
 - (2) Has in its permit a VOC-emissions limit of 50 tons (45.4 Mg) or more;
 - (3) Has applied for or received Title V status.
- c. **How to Apply:** An applicant shall submit a request for eligibility to the Control Officer. This request shall include a summary of the chief reasons for requesting eligibility for averaging.
- (1) The Control Officer shall provide a brief questionnaire eliciting responses intended to reveal whether the operator has sufficient understanding and preparation to successfully average. This questionnaire shall require a sample of their intended recordkeeping format along with calculations containing the expected amount and VOC-contents of coatings intended to be used in averaging.
 - (2) The Control Officer may request confirmation, correction, or clarification from the owner or operator for responses to the questionnaire that are questionable; that appear unclear, erroneous, incomplete, or non-pertinent, or for which there is contrary evidence.
 - (3) The owner or operator shall submit a correctly completed questionnaire, signed by a responsible officer of the facility, no later than 14 calendar days prior to the first day of averaging.
 - (4) Control Officer approval of the completed questionnaire shall constitute an acceptance of application for minor permit revision. The Control Officer may request additional information characteristically required for minor revisions to the permits of wood furniture coaters as a class.
 - (5) Control Officer approval does not necessarily constitute satisfaction of all federal requirements nor preempt the EPA Administrator's asserting a right of approval.

d. Definitions of Terms used in an Averaging Regime, for the Purposes of the Provisions of this Appendix to Rule 342:

- (1) CERTIFIED PRODUCT DATA SHEET:** A document provided by a coating supplier stating precisely the maximum VOC content of a particular coating as supplied. The maximum VOC content of a particular coating may be expressed as the VOC content by percent weight or VOC content Pounds per Gallon and Solid Content by percent weight or percent Non-Volatile and Density; or for any of these described expressions, equivalent information is acceptable.
- (2) CREDIT CONSUMING COATING (EXCEEDING COATING):** In an averaging regime, coating with average VOC content exceeding the neutral point for its particular coating type, such as topcoat, sealer, etc. A credit consuming coating requires the use of credit generating coating(s) in order that the combination of all coatings in use will not exceed the limit set by the left side of the averaging formula.
- (3) CREDIT CONSUMING PIECE/EXCEEDING PIECE:** In an averaging regime, a piece of furniture which is a member of a model-line of furniture receiving such a high proportion of credit-consuming coating that when the VOC contents and coating quantities received by the model-line, are entered into an averaging formula of Section i., the sum yielded by the right side of the formula is consistently larger than the sum yielded by the left side of the formula.
- (4) CREDIT GENERATING COATING:** A coating which has VOC content well below the neutral point and, thus, is used in an averaging regime to create surplus VOC credit(s) to offset the excess emissions of particular credit consuming coating(s).
- (5) CREDIT GENERATING PIECE:** In an averaging regime, a piece of furniture which is a member of a model-line of furniture receiving so much credit generating coating that when the VOC contents and coating quantities, received by the model-line, are entered into an averaging formula, the sum yielded by the right side of the formula is consistently less than the sum yielded by the left side of the formula.
- (6) NEUTRAL POINT:** The particular number representing the VOC content of a particular coating type having the mathematical property that if it is included in an averaging formula it has no effect on the numerical results of the formula, regardless of how much of the coating is used. The neutral point VOC content for each affected coating-type is as follows:

Using Formula 1:

Topcoat neutral point - 0.72 pound VOC per pound coating solids (0.72 kg VOC/kg solids).
(Stains, sealers, etc. do not appear in Formula 1)

Using Formula 2:

The neutral point VOC content for each of the 5 types of coating in Formula 2 is as follows:

**Table 342-3
Formula 2 Neutral Point VOC Content of Coating**

Coating Type	VOC Content Neutral Point	VOC Content Neutral Point
Topcoat	1.62 lb VOC/lb solids	1.62 kg VOC/kg solids
Sealer coat	1.71 lb VOC/lb solids	1.71 kg VOC/kg solids
Washcoat	8.1 lb VOC/lb solids	8.1 kg VOC/kg solids

Coating Type	VOC Content Neutral Point	VOC Content Neutral Point
Basecoat	1.08 lb VOC/lb solids	1.08 kg VOC/kg solids
Stain	5.942 lb VOC/gallon	0.712 kg VOC/liter

e. Basic Requirements for all Averaging Regimes:

- (1) **Entire Working Days:** Averaging regimes must be in place for no less than an entire 24 hour period and at all times during such 24-hour period. Normally, a working day will be the calendar day in which work commences. However, an owner or operator may designate in writing a working day schedule beginning and ending at a specific time between 12 midnight and 4:30 AM if the last shift normally ends between midnight and 4:30 AM, unless the Control Officer issues written disapproval. The times of the averaging working day may be changed if written notification has been given the Control Officer at least five working days before the start of the intended new schedule, and no communication of disapproval has been issued within this time by the Control Officer.
- (2) **Averaging Applies Plant-Wide:** An averaging regime applies throughout a facility to all production furniture coating occurring during all 24 hours of a working day for which an averaging regime is declared.
- (3) **No Exemption for Single Resin-Layer Finishes or Acid-Cured, Alkyd Amino Coatings:**
 - (a) In averaging regimes using Formula 2, for surfaces which receive in total only one application of film building coating, the neutral point for that coating shall be the same as that for a sealer, 1.71 lb VOC/lb solids (1.71 kg VOC/kg solids), and it shall be totaled with sealers in the averaging formula.
 - (b) Acid-cured, alkyd amino coatings, with or without vinyl chemistry, shall have the same neutral points in Formula 2 as do other sealers (1.71 lb VOC/lb solids or 1.71 kg VOC/kg solids) and topcoats (1.62 lb VOC/lb solids or 1.62 kg VOC/kg solids) and shall be totaled in with the other sealers and topcoats in Formula 2.
- (4) **Identifying Credit Consuming Models:** Each furniture/finish model must be identified which on average does not by itself (i.e., by the combination of all coatings it receives) meet the applicable averaging formula (and must be offset by models whose coatings generate VOC credits). The model name and/or code of each credit consuming model must be identified in a permanent record for that purpose, along with a designation indicating that the model produces excess emissions. This designation can be the average grams of VOC above the formula limit, the maximum grams above the limit, number of exceeding grams at the first standard deviation, relative risk, or other term(s) created by the owner or operator that fulfill this purpose for the facility.
- (5) **Exemption for Physically Separated Lines:**
 - (a) At the Control Officer's discretion, an exemption from the requirement that the entire facility participate when an averaging regime is in effect can be granted for an additional coating line if: Such a coating line is both physically separate from the operations involving averaging and all monitoring, recordkeeping, and coating equipment including coating reservoirs are kept separate from the monitoring, recordkeeping and coating equipment participating in an averaging regime. The burden of demonstration is on the

owner or operator that there is no significant risk of confounding enforcement, monitoring, recordkeeping, and equipment activities between the lines.

(b) Dual Averaging Regimes: A facility which has received such a subsection e.(5)(a) exemption has the option of running each separated line using an averaging regime. However, all requirements of this rule must be complied with by each separated line.

(6) Declaration of Averaging: On any working day of a Control Officer presence at a facility permitted to average, the owner or operator shall correctly announce without delay whether an averaging regime is currently in effect, and on an averaging working day shall also forthwith supply a listing of each coating participating in the averaging formula, along with the VOC content and the coating category of each.

f. Recordkeeping and Monitoring: In addition to the requirements of Section 501 of this rule, an owner or operator shall do the following:

(1) Daily List the Components: Prior to applying any coating on an averaging working day, a list shall be made of each coating name/code to be used that working day in the averaging formula and its expected VOC content as applied. This list shall be available to the Control Officer without delay.

(2) Daily calculation Deadline: After each working day using averaging, an owner or operator shall determine the results of averaging for that completed working day by midday on the next working day. These results shall be put into hardcopy in the same format that the owner or operator used in the approved application questionnaire. Some other format may be used if the Control Officer has given the format approval before beginning averaging.

(3) Log in: An owner or operator shall arrange and keep the hardcopy results of each working day's averaging in a form that allows the results of each averaging working day within the 13 months prior to a Control Officer visit to be accessed by the Control Officer without delay.

(4) Content of Weekly Summary of Production-Coating: By the end of the first shift of the workweek, totals for the workweek just completed shall be compiled as follows:

(a) For each model and color, the total number of furniture pieces coated;

(b) The name and quantity applied for each stain, washcoat, basecoat, sealer, topcoat, and diluent recorded. The quantity of stain shall be expressed in liters; the quantity of the other coatings expressed in kilograms;

(c) The VOC content for each such coating and diluent, expressed in lb VOC/lb solids or kg VOC/kg solids; and the non-precursor organic compound (NP) content of each, expressed either in kg NP/kg solids or kg NP/kg coating-including-NP shall be recorded, except that the VOC content of each stain shall be expressed in kg VOC per liter of coating, including any water or non-precursors.

(d) Monthly Totals for Non-Averaged Coatings: For coatings that do not participate in the averaging formulas, the total kilograms used shall be updated monthly. Coatings of the same type may be totaled together under a single VOC-content value if their VOC contents are within $\pm 2\%$ of that value.

(5) Handling Unavoidable Data Loss and Data Processing Equipment Malfunctions: An owner or operator shall put an accounting system in continual effect that allows the retrieval or reconstruction of data. When data required by this rule is lost, the Control Officer shall be

notified forthwith and such data shall be reconstructed and due calculations completed within two working days. The Control Officer may request that a hardcopy of the retrieved information be provided him/her by the same clock time, two working days hence.

(6) Report Submittal Schedule:

(a) Semi-Annual Reports: An owner or operator shall submit a summary of the records, including all exceedances, by July 20 for the first half of the year and by January 20 of the following year for the second half. Included shall be certified product data sheets for coatings whose VOC content is determined by the supplier and not directly by the facility, and a statement that the coatings for which certified product data sheets are submitted were the coatings actually used. All the foregoing shall be certified to and signed by a responsible official of the facility.

(b) Initial Compliance Report: Within 60 days after the third working day ever of averaging, an owner or operator shall submit a report to the Control Officer containing all the elements required by subsection f.(6)(a) above.

g. Test Procedures and Requirements:

(1) An owner or operator shall cause to be performed EPA Test Method 24 - Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, tests on a sample of each coating intended to be used in an averaging regime, prior to using such coating in any averaging regime. These samples shall be taken at three levels of dilution: prior to adding any diluent; with the minimum weight of VOC-containing solvent/diluent typically used; and with the maximum weight of VOC-containing solvent/diluent expected ever to be needed.

(2) An acetone determination shall be made in conjunction with Method 24 using EPA Test Method 311 - Analysis of Hazardous Air Pollutant Compounds in Paints and Coatings by Direct Injection into a Gas Chromatograph; or other method approved by EPA at the three dilution levels stipulated in subsection g.(1).

(3) The Status of Certified Product Data Sheets: After the initial Method 24 tests pursuant to subsection g.(1), an owner or operator may substitute the specific certified product data sheet, based on Method 24, for any coating for any of the three levels of dilution stipulated in subsection g.(1), in lieu of directly overseeing the Method 24 tests.

(a) However, a certified product data sheet is not valid and shall not be submitted if it is neither for a dilution level in subsection g.(1) nor for the actual dilution level of a coating as applied during averaging.

(b) When the results of a Method 24 test, performed pursuant to a Control Officer initiative or directive, differ from the certified product data sheet, the Control Officer may require an owner or operator to have Method 24 tests conducted at a testing facility agreed to by the Control Officer and may require that the results of such tests be the values used in calculating averages.

h. Sanctions:

(1) If an exceedance of the limits of an averaging formula is determined to be in violation of this rule, at least two violations may be charged: at least one violation for exceeding the limits in Section 301.1 and a separate violation for exceeding the limit determined by the averaging

formula in Section i. of this Appendix. Unless the Control Officer chooses otherwise, the number of violations issued for an exceedance of an averaging limit shall be one greater than the number of exceeding coatings participating in the averaging formula. Each working day the average is exceeded will be counted as a separate incident.

(2) Continuance: The Control Officer may disallow an owner or operator the continuance of averaging at a facility which has failed to comply with one or more provisions of this Appendix on three separate working days in any period of 12 consecutive months, or which has been found guilty of a major violation of such provisions, except as prohibited by other rule or statute.

i. Two Averaging Formulas: The following are the two mathematical formulas from which one may be chosen to be used for an averaging regime.

(1) If topcoats consistently average less than 0.72 kg VOC per kg solids on a mass solid basis, an owner or operator may use Formula 1.

$$\sum_{i=1}^n 0.72(TC_i) \geq \sum_{i=1}^n ER_{TC_i}(TC_i) \quad \text{Formula 1}$$

(2) For other coating systems using averaging, Formula 2 shall be used.

$$\sum_{i=1}^n 1.62(TC_i) + 1.71(SE_i) + 8.1(WC_i) + 1.08(BC_i) + 0.712(ST_i) \geq \sum_{i=1}^n ER_{TC_i}(TC_i) + ER_{SE_i}(SE_i) + ER_{WC_i}(WC_i) + ER_{BC_i}(BC_i) + ER_{ST_i}(ST_i) \quad \text{Formula 2}$$

where:

- N** = number of finishing materials participating in averaging;
- TC_i** = kilograms of solids of topcoat *i* used;
- SE_i** = kilograms of solids of sealer *i* used;
- WC_i** = kilograms of solids of washcoat *i* used;
- BC_i** = kilograms of solids of basecoat *i* used;
- ST_i** = liters of stain *i* used (water and any non-precursor content are not subtracted);
- ER_{TC_i}** = VOC content of topcoat *i* in kg VOC/kg solids, as applied;
- ER_{SE_i}** = VOC content of sealer *i* in kg VOC/kg solids, as applied;
- ER_{WC_i}** = VOC content of washcoat *i* in kg VOC/kg solids, as applied;
- ER_{BC_i}** = VOC content of basecoat *i* in kg VOC/kg solids, as applied; and
- ER_{ST_i}** = VOC content of stain *i* in kg VOC/liter, as applied.

j. Pre-RACT Coating use is Limited: If a coating was used before 1993, and is still used for the same purposes, and it had a VOC content then which is lower than the neutral point for that coating type, then that coating may only be used in the averaging equation if the coating is now lower in VOC than before 1993. If that coating is used in averaging, the left side of the averaging formula must reflect the pre-RACT VOC content and not the current RACT neutral point for

that type of coating. To effect this, additional mathematical terms must be added, one on the left and one on the right side of the formula. For example, if one can prove one used a high solids topcoat at 1.5 kg VOC/kg solids before 1993 (the year regulation negotiations began) and now thin the same product less so that it is consistently less than 1.5 kg/kg, one can enter it as a separate term. It appears in the formula below as “1.5(TU)” where “TU” stands for the total kilograms of solids of this unique topcoat used during an averaging working day. “TU” appears on both sides of the inequality sign. ER_U is the actual VOC content that was in this unique topcoat on a particular averaging working day. Along with this, the meaning of the term (TC_i) becomes slightly altered to mean the total topcoat solids used of every other topcoat beside the unique topcoat “U”:

$$\sum_{i=1}^n 1.62(TC_i) + 1.5(TU) + 1.71(SE_i) + 8.1(WC_i) + 1.08(BC_i) + 0.712(ST_i) \geq$$

$$\sum_{i=1}^n ER_{TC_i}(TC_i) + ER_U(TU) + ER_{SE_i}(SE_i) + ER_{WC_i}(WC_i) + ER_{BC_i}(BC_i) + ER_{ST_i}(ST_i)$$

Similarly, any other unique coatings that meet such requirements and are used in averaging must each have its own set of two terms inserted into the averaging formula. Moreover, once a pre-RACT coating is used in averaging, the term for its VOC content must stay in the equation as long as that pre-RACT coating is used, even if one later needs to raise the VOC content of the pre-RACT coating to a level above its historical VOC content.

**MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 342
COATING WOOD FURNITURE AND FIXTURES**

**APPENDIX B
A SHORT-FORM OPTION**

- a. **Applicability:** This Appendix B to Rule 342 only applies to operators of facilities which have a permit or permit modification limiting VOC emissions from all wood furniture and millwork coating to less than 10 tons (9.1 Mg), and the permit or Control Officer states in writing that this Appendix B applies. For those facilities for which this Appendix B does apply, no provisions within Sections 301 through 501, inclusive, shall be used to substitute for provisions in this Appendix B. Facilities subject to this Appendix B are also subject to all of Sections 100, 200, and 502.
- b. **Definitions:** For the purposes of this Appendix B, the following definition shall apply:
- (1) **MINUS EXEMPT MATERIALS (MINUS EXEMPTS):** Means the same as “less water and non-precursor organic compounds” in specifying VOC content.
- c. **VOC Limits for Topcoats and Sealers**
- (1) **The Principal VOC Limits:** Meet either the lbs VOC/lb solids limit or the lbs VOC/gal, minus exempts, limit: All sealers and topcoats: 2 lbs VOC/lb solids (2 kg VOC/kg solids) or 5.45 lb VOC/gal (653 g/l).
- (2) **VOC Tradeoff Options:** These 2 options each require special conditions.
- (a) **Low VOC topcoat with Higher VOC Sealer:**
- Low VOC topcoat: 0.8 lb VOC/lb solids (0.8 kg VOC/kg solids) or 3.83 lb/gal (455 g/l) limit for topcoat.
- Higher VOC sealer: no VOC limit for sealer under such topcoat.
- (b) **One-Step Finish:**
- Higher VOC combination sealer and topcoat: 3 lb VOC/lb solids (3 kg VOC/kg solids) or 6.0 lb/gal limit (719 g/l).
- The 2 Conditions:
- I. A single wet application of either sealer or topcoat (not both)
- II. Thickness of the dry finish cannot exceed 3 dry mils, as determined by the test method in Section 502.3 of this rule.
- d. **Spray Method Requirements:**
- (1) **Have Guns with Higher Transfer:** If you spray coating having over 1 lb VOC/lb solids (1 kg VOC/kg solids) you must use and have in evidence for an inspector at least one of the following onsite:

- Low pressure gun with less than 12 psig at air cap.
- An HVLP gun or a turbine gun with 10 psig or less at air cap.
- Airless; includes air-assisted airless.
- An electrostatic system.

(2) Conventional Spray Gun Restriction: No coating over 1lb VOC/lb solids (1 kg VOC/kg solids) may be applied with a conventional air-atomized or other restricted use gun unless the coating meets the requirements of Section 103.2.e of this rule. This prohibition includes, but is not limited to, traditional lacquers, washcoats, and low-solids stains.

(3) Exemptions from VOC and Spray-Method Limits: Prepackaged aerosol spray in cans under 22 fl. oz. (0.66 liter), faux and metal-leaf finish are exempt from Appendix B's subsections c.(1) and (2) and d.(1) and (2) as is any refinishing operation necessary for preservation, to return furniture to original condition, to replace missing furniture items to complete a matching set, or to produce custom replica furniture. But nothing exempted by the previous sentence is exempt from inventory of VOC emissions or from other provisions of this Appendix B.

e. Housekeeping Functions:

(1) Keep VOC-Containing Materials, Cleaners, & Waste-Materials Covered: An owner or operator shall cover and keep covered each VOC-containing material intended for the day's production, which is not currently in use. An owner or operator shall store VOC-containing finishing and cleaning materials in closed containers. An owner or operator shall store all VOC-containing materials intended for disposal, including, but not limited to, rags, waste coatings, waste solvents and their residues, in closed containers, which shall remain covered except when contents are being added or removed.

(2) Booth Cleaning: An owner or operator shall not clean spray booth components using a VOC-containing solvent containing more than eight percent (8.0%) by weight of VOC, including water and non-precursor compounds, except for: conveyors; continuous coaters and their enclosures; and metal filters and while refurbishing spray booths. If the strippable booth coating is being replaced, an owner or operator shall not use more than 1.0 gallon (3.8 liters) VOC-containing solvent per booth to clean the spray booth.

f. Records: Keep a list of all VOC-containing material with the name and amount of VOC in each: Express VOC content either as lb VOC/lb solids (kg VOC/kg solids) or lb VOC/gal (g VOC/l). For topcoat and sealer contents which are expressed in lb VOC/gal, this must be minus water and non-precursors.

(1) If you ever do your own Reducing or Thinning of a Sealer or Topcoat:

Keep a list of the maximum VOC content of any material after you thin it or add any additives at your facility.

(2) Keep Receipts for 5 Years of the amount received for each VOC containing material and of the amount of all VOC containing waste materials sent for recycling or hazardous waste collection.

(3) What to Record and How often: Record the amount in the following 4 categories, (a) to (d), noting either the amount “used” or the amount “received” since your last records update:

- (a)** All coatings including topcoats, sealers, stains, etc., including all parts, catalysts, activators, additives, hardeners; (not reducers). If you use conventional guns at all, total separately the coatings having less than 1 lb VOC/lb solids;
 - (b)** All VOC-containing reducers and diluents to be used for reducing or diluting coatings (not cleaning);
 - (c)** All VOC-containing solvents, strippers, thinners, and VOC-containing materials used for cleaning and cleanup (not reducing); and
 - (d)** All other VOC-containing materials connected with wood coating. Omit janitorial and building maintenance.
- (e) How often to Update your Records:** Update the above items in (a), (b), (c), and (d) weekly if your total monthly use of all coatings and diluents [(a) + (b)] is 250 gallons (946 liters) or more. Otherwise, update monthly. You may record just once a year those types of materials of which you use less than 15 gallons (57 l).

Example: I use 5 kinds of graining ink. Added all together, I use 14 gallons of all graining ink combined: I only have to update my graining inks once a year.

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**RULE 342
COATING WOOD FURNITURE AND FIXTURES**

**APPENDIX C
ALTERNATIVE COMPLIANCE WITH SECTION 301 VOC LIMITS AND/OR
SECTION 302 SPRAY-METHOD RESTRICTIONS BY USING AN EMISSIONS
CONTROL DEVICE**

- a. **Eligibility:** A person is allowed to meet the VOC limits of either or both Sections 301.1 and 301.2 of this rule by using an ECS which reduces VOC emissions overall, including capture and processing, by at least 81 percent by weight. Such an ECS may also be used to comply with Section 302.2 of this rule spray method provisions.
- b. **Operation and Maintenance (O&M) Plan Required for ECS:**
- (1) The owner or operator of an emission control system (ECS) used to meet the requirements of Section 301 of this rule shall provide the Control Officer with an Operation and Maintenance (O&M) Plan. This O&M Plan shall specify key system operating parameters, such as temperatures, pressures and/or flow rates, necessary to determine compliance with this rule, and describe in detail procedures and their frequency of implementation needed to maintain the ECS.
 - (2) The Control Officer's written approval of the O&M Plan is required. The owner or operator shall consistently implement all provisions of the O&M Plan.
 - (3) **Changes in Frequency:** Changes involving reduction in the frequency or extent of procedures or parameters in a Control Officer-approved O&M Plan shall have the written consent of the Control Officer prior to being implemented.
 - (4) **Other Changes:** An updated O&M Plan must be submitted to the Control Officer for review within ten (10) days of any changes not involving reduction in frequency or extent of procedures or parameters of an approved O&M Plan. Within five (5) working days of a written disapproval of such changes, either the original O&M Plan shall be reinstated or an alternative plan, negotiated with the affected facility and approved in writing by the Control Officer, shall be instituted.
- c. **Providing and Maintaining ECS Monitoring Devices:** Any person operating an emission control system (ECS) pursuant to Section 301.3 of this rule shall install, maintain, and calibrate monitoring devices described in the O&M Plan submitted to the Control Officer pursuant to subsection b. of this appendix. The monitoring devices shall measure temperatures, pressures, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly.
- (1) **ECS Operation and Maintenance Records:** On each working day that an ECS is used to comply with Section 301 of this rule, an owner or operator shall make a permanent record of the operating parameters of the key systems described in the O&M Plan. For each working day or period in which the O&M Plan requires that maintenance be performed, a permanent

record shall be made of the maintenance actions taken, within 24 hours of maintenance completion. An explanation shall be entered for scheduled maintenance that is not performed during the period designated in the O&M Plan.

(2) Other Records Required when Complying Via ECS: An owner or operator choosing to meet the requirements of Section 301 through the use of an ECS shall maintain, in addition to the monthly records required by Section 501.2 of this rule:

(a) Daily documentation showing the VOC content of the finishing material, as applied, in pounds VOC/pound solids when VOC-containing solvent or other VOC is added to the finishing material before application.

(b) Daily records showing the amount of coating, the amount of catalyst/hardener, and the amount of VOC-containing solvent, reducer, and/or diluent used.

d. Compliance Schedule for ECS: An owner or operator of a wood furniture coating facility shall have such facility in compliance per the following schedule. Total VOC emissions are the total facility-wide VOC from all operations that are vented to the ECS.

(1) Sources Emitting 50 TPY: The owner or operator of a wood furniture coating facility shall be in full compliance with all applicable requirements of this rule if such facility has applied for or received a Title V permit, its permit has a VOC-emissions limit of 50 tons (45.35 Mg) or more, or which has had an aggregate VOC emission to atmosphere after December 31, 1989, of 50.0 tons (45.35 Mg) or more in any calendar year or 300 pounds (136 kg) or more in any working day. In addition, an owner or operator shall provide the Control Officer with:

(a) Both proof of a binding contract for an ECS and a compliance plan listing dates of completion of increments of progress toward meeting the requirements of Section 301.2 of this rule.

(b) An O&M Plan for the ECS.

(2) Other Sources: The owner or operator of a wood furniture coating facility shall be in compliance with Section 301 and Section 302 of this rule, if the total VOC in each of the years 1990 through 1995 is less than 300 pounds (136 kg) in any working day and 50.0 tons (45.35 Mg) in any calendar year. In addition, the owner or operator shall provide the Control Officer with:

(a) Both proof of a binding contract for an ECS and a compliance plan, listing the dates of completing the increments of progress toward meeting the requirements of the Section 301.3 of this rule; and

(b) An O&M Plan for the ECS.

e. Test Methods for an ECS

(1) Control efficiency of an emission control device used to meet the requirements of Section 301 shall be determined according to EPA Test Method 25 - Determination of Total Gaseous Nonmethane Organic Emissions as Carbon or an applicable submethod of Method 25 (Title 40, CFR Part 60, Appendix A).

(2) EPA Test Method 18- Measurement of Gaseous Organic Compound Emissions by Gas Chromatography shall be used if specified by the Control Officer when a non-precursor

organic compound is present in the input of a control device used to meet the requirement of Section 301 of this rule.

- (3)** Capture efficiency of an emission control device used to meet the requirements of Section 301 shall be determined by mass balance in combination with ventilation/draft rate determinations done in accordance with subsection e.(4), following, or according to "Guidelines for Determining Capture Efficiency" January 9, 1995, Candace Sorrell, Source Characterization Group A, Office of Air Quality Planning and Standards, US EPA. This EPA document is available at the Maricopa County Air Quality Department.
- (4)** Ventilation/draft rates of an emission control device used to meet the requirements of Section 301 of this rule shall be determined by one or more of the following EPA Test Methods:

 - (a)** EPA Test Method 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)
 - (b)** EPA Test Method 2A - Direct Measurement of Gas Volume Through Pipes and Small Ducts
 - (c)** EPA Test Method 2C - Determination of Gas Velocity and Volumetric Flow Rate in Small Stacks or Ducts (Standard Pitot Tube)
 - (d)** EPA Test Method 2D - Measurement of Gas Volume Flow Rates in Small Pipes and Ducts