

SUBCHAPTER E: SOLVENT-USING PROCESSES
DIVISION 1: DEGREASING PROCESSES
§§115.410 - 115.413, 115.415, 115.416, 115.419
Effective June 25, 2015

§115.410. Applicability and Definitions.

(a) Applicability. The provisions of this division apply in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas as defined in §115.10 of this title (relating to Definitions) and in Bastrop, Bexar, Caldwell, Comal, Gregg, Guadalupe, Hays, Nueces, Travis, Victoria, Williamson, and Wilson Counties to all persons using volatile organic compound-containing solvent for cold solvent degreasing processes, open-top vapor degreasing processes, and conveyORIZED degreasing processes.

(b) Definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, or 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control.

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§115.411. Exemptions.

The following exemptions apply in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Bastrop, Bexar, Caldwell, Comal, Gregg, Guadalupe, Hays, Nueces, Travis, Victoria, Williamson, and Wilson Counties.

(1) Any cold solvent cleaning system is exempt from the provisions of §115.412(1)(B) of this title (relating to Control Requirements) and may use an external drainage facility in place of an internal type drainage system, if the true vapor pressure of the solvent is less than or equal to 0.6 pounds per square inch absolute (psia) (4.1 kilo Pascals (kPa)) as measured at 100 degrees Fahrenheit (38 degrees Celsius) or if a cleaned part cannot fit into an internal drainage facility.

(2) The following are exempt from the requirements of §115.412(1)(E) of this title:

(A) a cold solvent cleaning system for which the true vapor pressure of the solvent is less than or equal to 0.6 psia (4.1 kPa) as measured at 100 degrees

Fahrenheit (38 degrees Celsius), provided that the solvent is not heated above 120 degrees Fahrenheit (49 degrees Celsius); and

(B) remote reservoir cold solvent cleaners.

(3) Any conveyORIZED degreaser with less than 20 square feet (ft²) (2 square meters (m²)) of air/vapor interface is exempt from the requirement of §115.412(3)(A) of this title.

(4) An owner or operator who operates a remote reservoir cold solvent cleaner that uses solvent with a true vapor pressure equal to or less than 0.6 psia (4.1 kPa) measured at 100 degrees Fahrenheit (38 degrees Celsius) and that has a drain area less than 16 square inches (in²) (100 square centimeters (cm²)) and who properly disposes of waste solvent in enclosed containers is exempt from §115.412(1) of this title.

(5) In Gregg, Nueces, and Victoria Counties, degreasing operations located on any property that can emit, when uncontrolled, a combined weight of volatile organic compounds less than 550 pounds in any consecutive 24-hour period are exempt from the provisions of §115.412 of this title.

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§115.412. Control Requirements.

In the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas as defined in §115.10 of this title (relating to Definitions) and in Gregg, Nueces, Victoria, Bexar, Comal, Guadalupe, Wilson, Bastrop, Caldwell, Hays, Travis, and Williamson Counties, the following control requirements shall apply.

(1) Cold solvent cleaning. No person shall own or operate a system utilizing a volatile organic compound (VOC) for the cold solvent cleaning of objects without the following controls.

(A) A cover shall be provided for each cleaner which shall be kept closed whenever parts are not being handled in the cleaner. The cover shall be designed for easy one-handed operation if any of the following exists:

(i) the true vapor pressure of the solvent is greater than 0.3 psia (2 kPa) as measured at 100 degrees Fahrenheit (38 degrees Celsius);

(ii) the solvent is agitated; or

(iii) the solvent is heated.

(B) An internal cleaned-parts drainage facility, for enclosed draining under a cover, shall be provided for all cold solvent cleaners.

(C) A permanent label summarizing the operating requirements in subparagraph (F) of this paragraph shall be attached to the cleaner in a conspicuous location near the operator.

(D) If a solvent spray is used, it must be a solid fluid stream (not a fine, atomized, or shower-type spray) and at an operating pressure of ten psig or less as necessary to prevent splashing above the acceptable freeboard.

(E) The system shall be equipped with a freeboard that provides a ratio equal to or greater than 0.7, or a water cover (solvent must be insoluble in and heavier than water). To determine the freeboard ratio, the freeboard height measurement is taken from the top of the degreaser to the top of the air/solvent level. This number is then divided by the smallest width measurement. The width measurement is taken at the smallest interior dimension. This dimension could be located at any point, from the top or opening of the unit to the air/solvent level.

(F) The operating procedures shall be as follows.

(i) Waste solvent shall not be disposed of or transferred to another party such that the waste solvent can evaporate into the atmosphere. Waste solvents shall be stored only in covered containers.

(ii) The degreaser cover shall be kept closed whenever parts are not being handled in the cleaner.

(iii) Parts shall be drained for at least 15 seconds or until dripping ceases.

(iv) Porous or absorbent materials, such as cloth, leather, wood, or rope, shall not be degreased.

(2) Open-top vapor degreasing. No person shall own or operate a system utilizing a VOC for the open-top vapor degreasing of objects without the following controls:

(A) a cover that can be opened and closed easily without disturbing the vapor zone;

(B) the following devices which will automatically shut off the sump heat:

(i) a condenser coolant flow sensor and thermostat which will detect if the condenser coolant is not circulating or if the condenser coolant temperature exceeds the solvent manufacturer's recommendations;

(ii) a solvent level sensor which will detect if the solvent level drops below acceptable design limits; and

(iii) a vapor level sensor which will detect if the vapor level rises above acceptable design limits;

(C) a spray safety switch which will shut off the spray pump to prevent spraying above the vapor level;

(D) one of the following controls:

(i) a freeboard that provides a ratio equal to or greater than 0.75 and, if the degreaser opening is greater than 10 ft² (1m²), a powered cover. To determine the freeboard ratio, the freeboard height measurement is taken from the top of the degreaser to the top of the air/vapor level. This number is then divided by the smallest width measurement. The width measurement is taken at the smallest interior dimension. This dimension could be located at any point, from the top or opening of the unit to the air/vapor level;

(ii) a properly sized refrigerated chiller capable of achieving 85% or greater control of VOC emissions;

(iii) an enclosed design where the cover or door opens only when the dry part is actually entering or exiting the degreaser; or

(iv) a carbon adsorption system with ventilation equal to or greater than 50 cfm/ft² (15m³/min per m²) of air/vapor area (with the cover open) and exhausting less than 25 ppm of solvent by volume averaged over one complete adsorption cycle;

(E) a permanent, conspicuous, label summarizing the operating procedures listed in subparagraph (F) of this paragraph;

(F) the following operating procedures:

(i) the cover shall be closed at all times except when processing work loads through the degreaser;

(ii) parts shall be positioned so that complete drainage is obtained;

(iii) parts shall be moved in and out of the degreaser at less than 11 ft/min (3.3 m/min);

(iv) the work load shall be retained in the vapor zone at least 30 seconds or until condensation ceases;

(v) any pools of solvent on the cleaned parts shall be removed by tipping the part before withdrawing it from the vapor zone;

(vi) parts shall be allowed to dry within the degreaser freeboard area for at least 15 seconds or until visually dry;

(vii) porous or absorbent materials, such as cloth, leather, wood, or rope, shall not be degreased;

(viii) work loads shall not occupy more than half of the degreaser open top surface area;

(ix) solvent shall not be sprayed above the vapor level;

(x) solvent leaks shall be repaired immediately, or the degreaser shall be shut down until repairs are made;

(xi) waste solvent shall not be disposed of or transferred to another party such that the waste solvent will evaporate into the atmosphere. Waste solvent shall be stored only in covered containers;

(xii) exhaust ventilation for systems other than those which vent to a major control device shall not exceed 65 cfm per ft² (20 m³/min per m²) of degreaser open area, unless necessary to meet Occupational Safety and Health Administration (OSHA) requirements or unless a carbon adsorption system is installed as a major control device. Ventilation fans or other sources of air agitation shall not be used near the degreaser opening;

(xiii) water shall not be visibly detectable in the solvent exiting the water separator.

(3) Conveyorized degreasing. No person shall own or operate a system utilizing a VOC for the conveyorized cleaning of objects without the following controls:

(A) one of the following major control devices:

(i) a properly sized refrigerated chiller capable of achieving 85% or greater control of VOC emissions; or

(ii) a carbon adsorption system with ventilation equal to or greater than 50 cfm/ft² (15 m³/min/m²) of air/vapor area (when downtime covers are open) and exhausting less than 25 ppm of solvent by volume averaged over one complete adsorption cycle;

(B) a drying tunnel or other means, such as rotating (tumbling) basket if space is available, to prevent solvent liquid or vapor carry-out;

(C) a condenser flow switch and thermostat which will shut off sump heat if the condenser coolant is not circulating or if the condenser coolant discharge temperature exceeds the solvent manufacturer's recommendation;

(D) a spray safety switch which will shut off the spray pump if the vapor level drops more than four inches (ten cm);

(E) a vapor level control thermostat which will shut off the sump heat when the vapor level rises above the designed operating level;

(F) entrances and exits which silhouette work loads so that the average clearance (between parts and edge of the degreaser opening) is either less than four inches (ten cm) or less than 10% of the width of the opening;

(G) downtime covers which close off the entrance and exit during nonoperating hours;

(H) a permanent, conspicuous label near the operator summarizing the operating requirements in subparagraph (I) of this paragraph;

(I) the following operating procedures:

(i) exhaust ventilation for systems other than those which vent to a major control device shall not exceed 65 cfm/ft² (20 m³/min/m²) of degreaser opening, unless necessary to meet OSHA requirements or unless a carbon adsorption system is installed as a major control device. Ventilation fans shall not be used near the degreaser opening;

- obtained;
- (ii) parts shall be positioned so that complete drainage is obtained;
 - (iii) vertical conveyor speed shall be maintained at less than 11 ft/min (3.3 m/min);
 - (iv) waste solvent shall not be disposed of, or transferred to another party, such that the waste solvent can evaporate into the atmosphere. Waste solvent shall be stored only in covered containers;
 - (v) leaks shall be repaired immediately or the degreaser shall be shut down until repairs are made;
 - (vi) water shall not be visibly detectable in the solvent exiting the water separator;
 - (vii) downtime covers shall be placed over entrances and exits of conveyORIZED degreasers immediately after the conveyor and exhaust are shut down and removed just before they are started up;
 - (viii) porous or absorbent materials, such as cloth, leather, wood, or rope, shall not be degreased.

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Effective December 9, 2004

§115.413. Alternate Control Requirements.

The alternate control requirements for degreasing processes in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas and in Gregg, Nueces, Victoria, Bexar, Comal, Guadalupe, Wilson, Bastrop, Caldwell, Hays, Travis, and Williamson Counties are as follows.

(1) Alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

(2) An alternative capture and control system for cold solvent cleaners with a demonstrated overall volatile organic compound (VOC) emission reduction efficiency of 65% or greater may be used in lieu of the requirements of §115.412(1) of this title (relating to Control Requirements), if approved by the executive director.

(3) An alternate capture and control system for open-top vapor or conveyORIZED degreasers with a demonstrated overall VOC emission reduction efficiency of 85% or greater may be used in lieu of the requirements of §115.412(2)(D) or (3)(A) of this title, if approved by the executive director.

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§115.415. Testing Requirements.

The testing requirements for degreasing processes in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Bastrop, Bexar, Caldwell, Comal, Gregg, Guadalupe, Hays, Nueces, Travis, Victoria, Williamson, and Wilson Counties are as follows.

(1) Compliance with §115.412(1) of this title (relating to Control Requirements) must be determined by applying the following test methods, as applicable:

(A) determination of true vapor pressure using ASTM International Test Method D323-89, ASTM Test Method D2879, ASTM Test Method D4953, ASTM Test Method D5190, or ASTM Test Method D5191 for the measurement of Reid vapor pressure, adjusted for actual storage temperature in accordance with American Petroleum Institute Publication 2517, Third Edition, 1989;

(B) minor modifications to the test methods and procedures listed in subparagraph (A) of this paragraph that are approved by the executive director;

(C) using standard reference materials for the true vapor pressure of each volatile organic compound component; or

(D) using analytical data from the solvent supplier or manufacturer's material safety data sheet.

(2) Compliance with §115.412(2)(D)(iv) and (3)(A)(ii) of this title and §115.413(3) of this title (relating to Alternate Control Requirements) must be determined by applying the following test methods, as appropriate:

(A) Test Methods 1-4 (40 Code of Federal Regulations (CFR) Part 60, Appendix A) for determining flow rates, as necessary;

(B) Test Method 18 (40 CFR Part 60, Appendix A) for determining gaseous organic compound emissions by gas chromatography;

(C) Test Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(D) Test Methods 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis; or

(E) minor modifications to these test methods and procedures approved by the executive director.

(3) Test methods other than those specified in paragraphs (1) and (2) of this section may be used if validated by 40 CFR Part 63, Appendix A, Test Method 301. For the purposes of this paragraph, substitute "executive director" each place that Test Method 301 references "administrator."

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§115.416. Recordkeeping Requirements.

The owner or operator of each degreasing process in Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Bastrop, Bexar, Caldwell, Comal, Gregg, Guadalupe, Hays, Nueces, Travis, Victoria, Williamson, and Wilson Counties shall maintain the following records at the facility for at least two years and shall make such records available upon request to representatives of the executive director, the United States Environmental Protection Agency, or the local air pollution control agency having jurisdiction in the area:

(1) a record of control equipment maintenance, such as replacement of the carbon in a carbon adsorption unit;

(2) the results of all tests conducted at the facility in accordance with the requirements described in §115.415(2) of this title (relating to Testing Requirements);

(3) for each degreasing process in Gregg, Nueces, and Victoria Counties which is exempt under §115.411(5) of this title (relating to Exemptions), records of solvent usage in sufficient detail to document continuous compliance with this exemption;

(4) for each degreasing process in the Dallas-Fort Worth area, records sufficient to demonstrate continuous compliance with:

(A) the vapor pressure testing described in §115.415(1)(A) - (D) of this title; and

(B) the applicable exemptions in §115.411 of this title.

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§115.419. Counties and Compliance Schedules.

(a) In Brazoria, Chambers, Collin, Dallas, Denton, El Paso, Fort Bend, Galveston, Gregg, Hardin, Harris, Jefferson, Liberty, Montgomery, Nueces, Orange, Tarrant, Victoria, and Waller, Counties, the compliance date has passed and all affected persons shall continue to comply with this division.

(b) All affected persons in Bastrop, Bexar, Caldwell, Comal, Guadalupe, Hays, Travis, Williamson, and Wilson Counties shall comply with this division as soon as practicable, but no later than December 31, 2005.

(c) All affected persons in Ellis, Johnson, Kaufman, Parker, and Rockwall Counties shall comply with this division as soon as practicable, but no later than March 1, 2009.

(d) All affected persons of a degreasing process in Wise County shall comply with this division as soon as practicable, but no later than January 1, 2017.

(e) All affected persons of a degreasing process in Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties that becomes subject to this division on or after the applicable compliance date in subsection (a), (c), or (d) of this section shall comply with the requirements in this division as soon as practicable, but no later than 60 days after becoming subject.

(f) Upon the date the commission publishes notice in the *Texas Register* that the Wise County nonattainment designation for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard is no longer legally effective, the owner or operator of each degreasing process in Wise County is not required to comply with any of the requirements in this division.

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SUBCHAPTER E: SOLVENT-USING PROCESSES
DIVISION 2: SURFACE COATING PROCESSES
§§115.420 - 115.427, 115.429
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§115.420. Applicability and Definitions.

(a) The owner or operator of a surface coating process in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties, as specified in each paragraph below, is subject to this division. All owners and operators shall be in compliance with this division in accordance with the compliance schedules listed in §115.429 of this title (relating to Counties and Compliance Schedules).

(1) Large appliance coating. The requirements in this division apply in the Beaumont-Port Arthur and El Paso areas and in Gregg, Nueces, and Victoria Counties.

(2) Metal furniture coating. The requirements in this division apply in the Beaumont-Port Arthur and El Paso areas and in Gregg, Nueces, and Victoria Counties.

(3) Coil coating. The requirements in this division apply in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties.

(4) Paper coating. The requirements in this division apply in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties. In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, applicability is determined by the volatile organic compound (VOC) emissions from each individual paper coating line.

(A) Each paper coating line in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas that has the potential to emit less than 25 tons per year (tpy) of VOC is subject to this division.

(B) Each paper coating line in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas that has the potential to emit equal to or greater than 25 tpy of VOC is subject to the requirements in Division 5 of this Subchapter (relating to Control Requirements for Surface Coating Processes).

(5) Fabric coating. The requirements in this division apply in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties.

(6) Vinyl coating. The requirements in this division apply in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties.

(7) Can coating. The requirements in this division apply in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties.

(8) Automobile and light-duty truck coating. The requirements in this division apply in the Beaumont-Port Arthur, El Paso, and Houston-Galveston-Brazoria areas.

(9) Vehicle refinishing coating (body shops). The requirements in this division apply in the Dallas-Fort Worth area, except in Wise County, and in the El Paso and Houston-Galveston-Brazoria areas.

(10) Miscellaneous metal parts and products coating. The requirements in this division apply in the Beaumont-Port Arthur and El Paso areas and in Gregg, Nueces, and Victoria Counties. In the Dallas-Fort Worth area, except in Wise County, and the Houston-Galveston-Brazoria area, the requirements in this division apply only to designated on-site maintenance shops as specified in §115.427(8) of this title (relating to Exemptions).

(11) Factory surface coating of flat wood paneling. The requirements in this division apply in the Beaumont-Port Arthur area, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties.

(12) Aerospace coating. The requirements in this division apply in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties.

(13) Mirror backing coating. The requirements in this division apply in the Beaumont-Port Arthur area, the Dallas-Fort Worth area, except in Wise County, the El Paso area, and the Houston-Galveston-Brazoria area.

(14) Wood parts and products coating. The requirements in this division apply in the Dallas-Fort Worth area, except in Wise County, the El Paso area, and the Houston-Galveston-Brazoria area.

(15) Wood furniture manufacturing coatings. The requirements in this division apply in the Beaumont-Port Arthur area, the Dallas-Fort Worth area, except in Wise County, the El Paso area, and the Houston-Galveston-Brazoria area.

(16) Marine coatings. The requirements in this division apply in the Beaumont-Port Arthur and Houston-Galveston-Brazoria areas.

(b) General surface coating definitions. The following terms, when used in this division have the following meanings, unless the context clearly indicates otherwise. Additional definitions for terms used in this division are found in §§3.2, 101.1, and 115.10 of this title (relating to Definitions).

(1) Aerosol coating (spray paint)--A hand-held, pressurized, nonrefillable container that expels an adhesive or a coating in a finely divided spray when a valve on the container is depressed.

(2) Coating--A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, thinners, diluents, inks, maskants, and temporary protective coatings.

(3) Coating application system--Devices or equipment designed for the purpose of applying a coating material to a surface. The devices may include, but are not be limited to, brushes, sprayers, flow coaters, dip tanks, rollers, knife coaters, and extrusion coaters.

(4) Coating line--An operation consisting of a series of one or more coating application systems and including associated flashoff area(s), drying area(s), and oven(s) wherein a surface coating is applied, dried, or cured.

(5) Coating solids (or solids)--The part of a coating that remains after the coating is dried or cured.

(6) Daily weighted average--The total weight of volatile organic compound (VOC) emissions from all coatings subject to the same emission standard in §115.421 of this title (relating to Emission Specifications), divided by the total volume of those coatings (minus water and exempt solvent) delivered to the application system each day. Coatings subject to different emission standards in §115.421 of this title must not be combined for purposes of calculating the daily weighted average. In addition, determination of compliance is based on each individual coating line.

(7) High-volume low-pressure spray guns--Equipment used to apply coatings by means of a spray gun which operates between 0.1 and 10.0 pounds per square inch gauge air pressure at the air cap.

(8) Normally closed container--A container that is closed unless an operator is actively engaged in activities such as adding or removing material.

(9) Pounds of VOC per gallon of coating (minus water and exempt solvents)--Basis for emission limits for surface coating processes. Can be calculated by the following equation:

Figure: 30 TAC §115.420(b)(9)

Pounds of volatile organic compounds (VOC) per gallon of coating (minus water and exempt solvents) =

$$\frac{W_v}{(V_m - V_w - V_{es})}$$

Where:

W_v = weight of VOC, in pounds, contained in V_m gallons of coating

V_m = volume of coating, generally assumed to be one gallon

V_w = volume of water, in gallons, contained in V_m gallons of coating

V_{es} = volume of exempt solvents, in gallons, contained in V_m gallons of coating

(10) Pounds of VOC per gallon of solids--Basis for emission limits for surface coating process. Can be calculated by the following equation:

Figure: 30 TAC §115.420(b)(10)

Pounds of volatile organic compounds (VOC) per gallon of solids =

$$\frac{W_v}{(V_m - V_v - V_w - V_{es})}$$

Where:

W_v = weight of VOC, in pounds, contained in V_m gallons of coating

V_m = volume of coating, generally assumed to be one gallon

V_v = volume of VOC, in gallons, contained in V_m gallons of coating

V_w = volume of water, in gallons, contained in V_m gallons of coating

V_{es} = volume of exempt solvents, in gallons, contained in V_m gallons of coating

(11) Spray gun--A device that atomizes a coating or other material and projects the particulates or other material onto a substrate.

(12) Surface coating processes--Operations which utilize a coating application system.

(13) Transfer efficiency--The amount of coating solids deposited onto the surface of a part or product divided by the total amount of coating solids delivered to the coating application system.

(c) Specific surface coating definitions. The following terms, when used in this division, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Aerospace coating.

(A) Ablative coating--A coating that chars when exposed to open flame or extreme temperatures, as would occur during the failure of an engine casing or during aerodynamic heating. The ablative char surface serves as an insulative barrier, protecting adjacent components from the heat or open flame.

(B) Adhesion promoter--A very thin coating applied to a substrate to promote wetting and form a chemical bond with the subsequently applied material.

(C) Adhesive bonding primer--A primer applied in a thin film to aerospace components for the purpose of corrosion inhibition and increased adhesive bond strength by attachment. There are two categories of adhesive bonding primers: primers with a design cure at 250 degrees Fahrenheit or below and primers with a design cure above 250 degrees Fahrenheit.

(D) Aerospace vehicle or component--Any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles.

(E) Aircraft fluid systems--Those systems that handle hydraulic fluids, fuel, cooling fluids, or oils.

(F) Aircraft transparency--The aircraft windshield, canopy, passenger windows, lenses, and other components which are constructed of transparent materials.

(G) Antichafe coating--A coating applied to areas of moving aerospace components that may rub during normal operations or installation.

(H) Antique aerospace vehicle or component--An aerospace vehicle or component thereof that was built at least 30 years ago. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

(I) Aqueous cleaning solvent--A solvent in which water is at least 80% by volume of the solvent as applied.

(J) Bearing coating--A coating applied to an antifriction bearing, a bearing housing, or the area adjacent to such a bearing in order to facilitate bearing function or to protect base material from excessive wear. A material shall not be classified as a bearing coating if it can also be classified as a dry lubricative material or a solid film lubricant.

(K) Bonding maskant--A temporary coating used to protect selected areas of aerospace parts from strong acid or alkaline solutions during processing for bonding.

(L) Caulking and smoothing compounds--Semi-solid materials which are applied by hand application methods and are used to aerodynamically smooth exterior vehicle surfaces or fill cavities such as bolt hole accesses. A material shall not be classified as a caulking and smoothing compound if it can also be classified as a sealant.

(M) Chemical agent-resistant coating--An exterior topcoat designed to withstand exposure to chemical warfare agents or the decontaminants used on these agents.

(N) Chemical milling maskant--A coating that is applied directly to aluminum components to protect surface areas when chemically milling the component with a Type I or II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant. This definition does not include bonding maskants, critical use and line sealer maskants, and seal coat maskants. Additionally, maskants that must be used with a combination of Type I or II etchants and any of the above types of maskants (i.e., bonding, critical use and line sealer, and seal coat) are not included. Maskants that are defined as specialty coatings are not included under this definition.

(O) Cleaning operation--Spray-gun, hand-wipe, and flush cleaning operations.

(P) Cleaning solvent--A liquid material used for hand-wipe, spray gun, or flush cleaning. This definition does not include solutions that contain no VOC.

(Q) Clear coating--A transparent coating usually applied over a colored opaque coating, metallic substrate, or placard to give improved gloss and protection to the color coat.

(R) Closed-cycle depainting system--A dust free, automated process that removes permanent coating in small sections at a time, and maintains a continuous vacuum around the area(s) being depainted to capture emissions.

(S) Coating operation--Using a spray booth, tank, or other enclosure or any area (such as a hangar) for applying a single type of coating (e.g., primer); using the same spray booth for applying another type of coating (e.g., topcoat) constitutes a separate coating operation for which compliance determinations are performed separately.

(T) Coating unit--A series of one or more coating applicators and any associated drying area and/or oven wherein a coating is applied, dried, and/or cured. A coating unit ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating.

(U) Commercial exterior aerodynamic structure primer--A primer used on aerodynamic components and structures that protrude from the fuselage, such as wings and attached components, control surfaces, horizontal stabilizers, vertical fins, wing-to-body fairings, antennae, and landing gear and doors, for the purpose of extended corrosion protection and enhanced adhesion.

(V) Commercial interior adhesive--Materials used in the bonding of passenger cabin interior components. These components must meet the Federal Aviation Administration (FAA) fireworthiness requirements.

(W) Compatible substrate primer--Either compatible epoxy primer or adhesive primer. Compatible epoxy primer is primer that is compatible with the filled elastomeric coating and is epoxy based. The compatible substrate primer is an epoxy-polyamide primer used to promote adhesion of elastomeric coatings such as impact-resistant coatings. Adhesive primer is a coating that:

(i) inhibits corrosion and serves as a primer applied to bare metal surfaces or prior to adhesive application; or

(ii) is applied to surfaces that can be expected to contain fuel. Fuel tank coatings are excluded from this category.

(X) Confined space--A space that:

(i) is large enough and so configured that a person can bodily enter and perform assigned work;

(ii) has limited or restricted means for entry or exit (for example, fuel tanks, fuel vessels, and other spaces that have limited means of entry); and

(iii) is not suitable for continuous occupancy.

(Y) Corrosion prevention compound--A coating system or compound that provides corrosion protection by displacing water and penetrating mating surfaces, forming a protective barrier between the metal surface and moisture. Coatings containing oils or waxes are excluded from this category.

(Z) Critical use and line sealer maskant--A temporary coating, not covered under other maskant categories, used to protect selected areas of aerospace parts from strong acid or alkaline solutions such as those used in anodizing, plating, chemical milling and processing of magnesium, titanium, or high-strength steel, high-precision aluminum chemical milling of deep cuts, and aluminum chemical milling of complex shapes. Materials used for repairs or to bridge gaps left by scribing operations (i.e., line sealer) are also included in this category.

(AA) Cryogenic flexible primer--A primer designed to provide corrosion resistance, flexibility, and adhesion of subsequent coating systems when exposed to loads up to and surpassing the yield point of the substrate at cryogenic temperatures (-275 degrees Fahrenheit and below).

(BB) Cryoprotective coating--A coating that insulates cryogenic or subcooled surfaces to limit propellant boil-off, maintain structural integrity of metallic structures during ascent or re-entry, and prevent ice formation.

(CC) Cyanoacrylate adhesive--A fast-setting, single component adhesive that cures at room temperature. Also known as "super glue."

(DD) Dry lubricative material--A coating consisting of lauric acid, cetyl alcohol, waxes, or other noncross linked or resin-bound materials that act as a dry lubricant.

(EE) Electric or radiation-effect coating--A coating or coating system engineered to interact, through absorption or reflection, with specific regions of

the electromagnetic energy spectrum, such as the ultraviolet, visible, infrared, or microwave regions. Uses include, but are not limited to, lightning strike protection, electromagnetic pulse (EMP) protection, and radar avoidance. Coatings that have been designated as "classified" by the Department of Defense are excluded.

(FF) Electrostatic discharge and electromagnetic interference coating--A coating applied to space vehicles, missiles, aircraft radomes, and helicopter blades to disperse static energy or reduce electromagnetic interference.

(GG) Elevated-temperature Skydrol-resistant commercial primer--A primer applied primarily to commercial aircraft (or commercial aircraft adapted for military use) that must withstand immersion in phosphate-ester hydraulic fluid (Skydrol 500b or equivalent) at the elevated temperature of 150 degrees Fahrenheit for 1,000 hours.

(HH) Epoxy polyamide topcoat--A coating used where harder films are required or in some areas where engraving is accomplished in camouflage colors.

(II) Fire-resistant (interior) coating--For civilian aircraft, fire-resistant interior coatings are used on passenger cabin interior parts that are subject to the FAA fireworthiness requirements. For military aircraft, fire-resistant interior coatings are used on parts that are subject to the flammability requirements of MIL-STD-1630A and MIL-A-87721. For space applications, these coatings are used on parts that are subject to the flammability requirements of SE-R-0006 and SSP 30233.

(JJ) Flexible primer--A primer that meets flexibility requirements such as those needed for adhesive bond primed fastener heads or on surfaces expected to contain fuel. The flexible coating is required because it provides a compatible, flexible substrate over bonded sheet rubber and rubber-type coatings as well as a flexible bridge between the fasteners, skin, and skin-to-skin joints on outer aircraft skins. This flexible bridge allows more topcoat flexibility around fasteners and decreases the chance of the topcoat cracking around the fasteners. The result is better corrosion resistance.

(KK) Flight test coating--A coating applied to aircraft other than missiles or single-use aircraft prior to flight testing to protect the aircraft from corrosion and to provide required marking during flight test evaluation.

(LL) Flush cleaning--Removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component or coating equipment by passing solvent over, into, or through the item being cleaned. The solvent may simply be poured into the item being cleaned and then drained, or assisted by air or hydraulic pressure, or by pumping. Hand-wipe cleaning operations where wiping, scrubbing, mopping, or other hand action are used are not included.

(MM) Fuel tank adhesive--An adhesive used to bond components exposed to fuel and must be compatible with fuel tank coatings.

(NN) Fuel tank coating--A coating applied to fuel tank components for the purpose of corrosion and/or bacterial growth inhibition and to assure sealant adhesion in extreme environmental conditions.

(OO) Grams of VOC per liter of coating (less water and less exempt solvent)--The weight of VOC per combined volume of total volatiles and coating solids, less water and exempt compounds. Can be calculated by the following equation:

Figure: 30 TAC §115.420(c)(1)(OO)

$$\text{Grams of Volatile Organic Compounds per Liter of Coating} = \frac{W_s - W_w - W_{es}}{V_s - V_w - V_{es}}$$

Where:

W_s =weight of total volatiles in grams

W_w =weight of water in grams

W_{es} =weight of exempt compounds in grams

V_s =volume of coating in liters

V_w =volume of water in liters

V_{es} =volume of exempt compounds in liters

(PP) Hand-wipe cleaning operation--Removing contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component by physically rubbing it with a material such as a rag, paper, or cotton swab that has been moistened with a cleaning solvent.

(QQ) High temperature coating--A coating designed to withstand temperatures of more than 350 degrees Fahrenheit.

(RR) Hydrocarbon-based cleaning solvent--A solvent which is composed of VOC (photochemically reactive hydrocarbons) and/or oxygenated hydrocarbons, has a maximum vapor pressure of seven millimeters of mercury (mm Hg) at 20 degrees Celsius (68 degrees Fahrenheit), and contains no hazardous air pollutant (HAP) identified in the 1990 Amendments to the Federal Clean Air Act (FCAA), §112(b).

(SS) Insulation covering--Material that is applied to foam insulation to protect the insulation from mechanical or environmental damage.

(TT) Intermediate release coating--A thin coating applied beneath topcoats to assist in removing the topcoat in depainting operations and generally to allow the use of less hazardous depainting methods.

(UU) Lacquer--A clear or pigmented coating formulated with a nitrocellulose or synthetic resin to dry by evaporation without a chemical reaction. Lacquers are resolvable in their original solvent.

(VV) Limited access space--Internal surfaces or passages of an aerospace vehicle or component that cannot be reached without the aid of an airbrush or a spray gun extension for the application of coatings.

(WW) Metalized epoxy coating--A coating that contains relatively large quantities of metallic pigmentation for appearance and/or added protection.

(XX) Mold release--A coating applied to a mold surface to prevent the molded piece from sticking to the mold as it is removed.

(YY) Monthly weighted average--The total weight of VOC emission from all coatings divided by the total volume of those coatings (minus water and exempt solvents) delivered to the application system each calendar month. Coatings shall not be combined for purposes of calculating the monthly weighted average. In addition, determination of compliance is based on each individual coating operation.

(ZZ) Nonstructural adhesive--An adhesive that bonds nonload bearing aerospace components in noncritical applications and is not covered in any other specialty adhesive categories.

(AAA) Operating parameter value--A minimum or maximum value established for a control equipment or process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has continued to comply with an applicable emission limitation.

(BBB) Optical antireflection coating--A coating with a low reflectance in the infrared and visible wavelength ranges that is used for antireflection on or near optical and laser hardware.

(CCC) Part marking coating--Coatings or inks used to make identifying markings on materials, components, and/or assemblies of aerospace vehicles. These markings may be either permanent or temporary.

(DDD) Pretreatment coating--An organic coating that contains at least 0.5% acids by weight and is applied directly to metal or composite surfaces to provide surface etching, corrosion resistance, adhesion, and ease of stripping.

(EEE) Primer--The first layer and any subsequent layers of identically formulated coating applied to the surface of an aerospace vehicle or component. Primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent coatings. Primers that are defined as specialty coatings are not included under this definition.

(FFF) Radome--The nonmetallic protective housing for electromagnetic transmitters and receivers (e.g., radar, electronic countermeasures, etc.).

(GGG) Rain erosion-resistant coating--A coating or coating system used to protect the leading edges of parts such as flaps, stabilizers, radomes, engine inlet nacelles, etc. against erosion caused by rain impact during flight.

(HHH) Research and development--An operation whose primary purpose is for research and development of new processes and products and that is conducted under the close supervision of technically trained personnel and is not involved in the manufacture of final or intermediate products for commercial purposes, except in a de minimis manner.

(III) Rocket motor bonding adhesive--An adhesive used in rocket motor bonding applications.

(JJJ) Rocket motor nozzle coating--A catalyzed epoxy coating system used in elevated temperature applications on rocket motor nozzles.

(KKK) Rubber-based adhesive--A quick setting contact cement that provides a strong, yet flexible bond between two mating surfaces that may be of dissimilar materials.

(LLL) Scale inhibitor--A coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of scale.

(MMM) Screen print ink--An ink used in screen printing processes during fabrication of decorative laminates and decals.

(NNN) Sealant--A material used to prevent the intrusion of water, fuel, air, or other liquids or solids from certain areas of aerospace vehicles or

components. There are two categories of sealants: extrudable/rollable/brushable sealants and sprayable sealants.

(OOO) Seal coat maskant--An overcoat applied over a maskant to improve abrasion and chemical resistance during production operations.

(PPP) Self-priming topcoat--A topcoat that is applied directly to an uncoated aerospace vehicle or component for purposes of corrosion prevention, environmental protection, and functional fluid resistance. More than one layer of identical coating formulation may be applied to the vehicle or component.

(QQQ) Semiaqueous cleaning solvent--A solution in which water is a primary ingredient. More than 60% by volume of the solvent solution as applied must be water.

(RRR) Silicone insulation material--An insulating material applied to exterior metal surfaces for protection from high temperatures caused by atmospheric friction or engine exhaust. These materials differ from ablative coatings in that they are not "sacrificial."

(SSS) Solid film lubricant--A very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum, graphite, polytetrafluoroethylene, or other solids that act as a dry lubricant between faying (i.e., closely or tightly fitting) surfaces.

(TTT) Space vehicle--A man-made device, either manned or unmanned, designed for operation beyond earth's atmosphere. This definition includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons. Also included is auxiliary equipment associated with test, transport, and storage, that through contamination can compromise the space vehicle performance.

(UUU) Specialty coating--A coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection.

(VVV) Specialized function coating--A coating that fulfills extremely specific engineering requirements that are limited in application and are characterized

by low volume usage. This category excludes coatings covered in other specialty coating categories.

(WWW) Structural autoclavable adhesive--An adhesive used to bond load-carrying aerospace components that is cured by heat and pressure in an autoclave.

(XXX) Structural nonautoclavable adhesive--An adhesive cured under ambient conditions that is used to bond load-carrying aerospace components or other critical functions, such as nonstructural bonding in the proximity of engines.

(YYY) Surface preparation--The removal of contaminants from the surface of an aerospace vehicle or component or the activation or reactivation of the surface in preparation for the application of a coating.

(ZZZ) Temporary protective coating--A coating applied to provide scratch or corrosion protection during manufacturing, storage, or transportation. Two types include peelable protective coatings and alkaline removable coatings. These materials are not intended to protect against strong acid or alkaline solutions. Coatings that provide this type of protection from chemical processing are not included in this category.

(AAAA) Thermal control coating--A coating formulated with specific thermal conductive or radiative properties to permit temperature control of the substrate.

(BBBB) Topcoat--A coating that is applied over a primer on an aerospace vehicle or component for appearance, identification, camouflage, or protection. Topcoats that are defined as specialty coatings are not included under this definition.

(CCCC) Touch-up and repair coating--A coating used to cover minor coating imperfections appearing after the main coating operation.

(DDDD) Touch-up and repair operation--That portion of the coating operation that is the incidental application of coating used to cover minor imperfections in the coating finish or to achieve complete coverage. This definition includes out-of-sequence or out-of-cycle coating.

(EEEE) Volatile organic compound (VOC) composite vapor pressure--The sum of the partial pressures of the compounds defined as VOCs, determined by the following calculation:

Figure: 30 TAC §115.420(c)(1)(EEEE)

$$PP_c = \frac{\sum_{i=1}^n \frac{W_i}{MW_i} \times VP_i}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

W_i = weight of the "i"th volatile organic compounds (VOC) compound, grams

W_w = weight of water, grams

W_e = weight of nonwater, non-VOC compound, grams

MW_i = molecular weight of the "i"th VOC compound, g/g-mole

MW_w = molecular weight of water, g/g-mole

MW_e = molecular weight of exempt compound, g/g-mole

PP_c = VOC composite partial pressure at 20 degrees Celsius, millimeters of mercury (mm Hg)

VP_i = vapor pressure of the "i"th VOC compound at 20 degrees Celsius, mm Hg

(FFFF) Waterborne (water-reducible) coating--A coating which contains more than 5.0% water by weight as applied in its volatile fraction.

(GGGG) Wet fastener installation coating--A primer or sealant applied by dipping, brushing, or daubing to fasteners that are installed before the coating is cured.

(HHHH) Wing coating--A corrosion-resistant topcoat that is resilient enough to withstand the flexing of the wings.

(2) Can coating--The coating of cans for beverages (including beer), edible products (including meats, fruit, vegetables, and others), tennis balls, motor oil, paints, and other mass-produced cans.

(3) Coil coating--The coating of any flat metal sheet or strip supplied in rolls or coils.

(4) Fabric coating--The application of coatings to fabric, which includes rubber application (rainwear, tents, and industrial products such as gaskets and diaphragms).

(5) Factory surface coating of flat wood paneling--Coating of flat wood paneling products, including hardboard, hardwood plywood, particle board, printed interior paneling, and tile board.

(6) Large appliance coating--The coating of doors, cases, lids, panels, and interior support parts of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other large appliances.

(7) Metal furniture coating--The coating of metal furniture (tables, chairs, wastebaskets, beds, desks, lockers, benches, shelves, file cabinets, lamps, and other metal furniture products) or the coating of any metal part which will be a part of a nonmetal furniture product.

(8) Mirror backing coating--The application of coatings to the silvered surface of a mirror.

(9) Miscellaneous metal parts and products coating.

(A) Clear coat--A coating which lacks opacity or which is transparent and which may or may not have an undercoat that is used as a reflectant base or undertone color.

(B) Drum (metal)--Any cylindrical metal shipping container with a nominal capacity equal to or greater than 12 gallons (45.4 liters) but equal to or less than 110 gallons (416 liters).

(C) Extreme performance coating--A coating intended for exposure to extreme environmental conditions, such as continuous outdoor exposure; temperatures frequently above 95 degrees Celsius (203 degrees Fahrenheit); detergents; abrasive and scouring agents; solvents; and corrosive solutions, chemicals, or atmospheres.

(D) High-bake coatings--Coatings designed to cure at temperatures above 194 degrees Fahrenheit.

(E) Low-bake coatings--Coatings designed to cure at temperatures of 194 degrees Fahrenheit or less.

(F) Miscellaneous metal parts and products (MMPP) coating--The coating of MMPP in the following categories at original equipment manufacturing operations; designated on-site maintenance shops which recoat used parts and products; and off-site job shops which coat new parts and products or which recoat used parts and products:

(i) large farm machinery (harvesting, fertilizing, and planting machines, tractors, combines, etc.);

(ii) small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.);

(iii) small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.);

(iv) commercial machinery (computers and auxiliary equipment, typewriters, calculators, vending machines, etc.);

(v) industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.);

(vi) fabricated metal products (metal-covered doors, frames, etc.); and

(vii) any other category of coated metal products, including, but not limited to, those which are included in the Standard Industrial Classification Code major group 33 (primary metal industries), major group 34 (fabricated metal products), major group 35 (nonelectrical machinery), major group 36 (electrical machinery), major group 37 (transportation equipment), major group 38 (miscellaneous instruments), and major group 39 (miscellaneous manufacturing industries). Excluded are those surface coating processes specified in paragraphs (1) - (8) and (10) - (14) of this subsection.

(G) Pail (metal)--Any cylindrical metal shipping container with a nominal capacity equal to or greater than 1 gallon (3.8 liters) but less than 12 gallons (45.4 liters) and constructed of 29 gauge or heavier material.

(10) Paper coating--The coating of paper and pressure-sensitive tapes (regardless of substrate and including paper, fabric, and plastic film) and related web coating processes on plastic film (including typewriter ribbons, photographic film, and magnetic tape) and metal foil (including decorative, gift wrap, and packaging).

(11) Marine coatings.

(A) Air flask specialty coating--Any special composition coating applied to interior surfaces of high pressure breathing air flasks to provide corrosion resistance and that is certified safe for use with breathing air supplies.

(B) Antenna specialty coating--Any coating applied to equipment through which electromagnetic signals must pass for reception or transmission.

(C) Antifoulant specialty coating--Any coating that is applied to the underwater portion of a vessel to prevent or reduce the attachment of biological organisms and that is registered with the EPA as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act.

(D) Batch--The product of an individual production run of a coating manufacturer's process. (A batch may vary in composition from other batches of the same product.)

(E) Bitumens--Black or brown materials that are soluble in carbon disulfide, which consist mainly of hydrocarbons.

(F) Bituminous resin coating--Any coating that incorporates bitumens as a principal component and is formulated primarily to be applied to a substrate or surface to resist ultraviolet radiation and/or water.

(G) Epoxy--Any thermoset coating formed by reaction of an epoxy resin (i.e., a resin containing a reactive epoxide with a curing agent).

(H) General use coating--Any coating that is not a specialty coating.

(I) Heat resistant specialty coating--Any coating that during normal use must withstand a temperature of at least 204 degrees Celsius (400 degrees Fahrenheit).

(J) High-gloss specialty coating--Any coating that achieves at least 85% reflectance on a 60 degree meter when tested by the American Society for Testing and Materials (ASTM) Method D-523.

(K) High-temperature specialty coating--Any coating that during normal use must withstand a temperature of at least 426 degrees Celsius (800 degrees Fahrenheit).

(L) Inorganic zinc (high-build) specialty coating--A coating that contains 960 grams per liter (eight pounds per gallon) or more elemental zinc incorporated into an inorganic silicate binder that is applied to steel to provide galvanic corrosion resistance. (These coatings are typically applied at more than two mil dry film thickness.)

(M) Maximum allowable thinning ratio--The maximum volume of thinner that can be added per volume of coating without exceeding the applicable VOC limit of §115.421(15) of this title.

(N) Military exterior specialty coating--Any exterior topcoat applied to military or United States Coast Guard vessels that are subject to specific chemical, biological, and radiological washdown requirements.

(O) Mist specialty coating--Any low viscosity, thin film, epoxy coating applied to an inorganic zinc primer that penetrates the porous zinc primer and allows the occluded air to escape through the paint film prior to curing.

(P) Navigational aids specialty coating--Any coating applied to Coast Guard buoys or other Coast Guard waterway markers when they are recoated aboard ship at their usage site and immediately returned to the water.

(Q) Nonskid specialty coating--Any coating applied to the horizontal surfaces of a marine vessel for the specific purpose of providing slip resistance for personnel, vehicles, or aircraft.

(R) Nonvolatiles (or volume solids)--Substances that do not evaporate readily. This term refers to the film-forming material of a coating.

(S) Nuclear specialty coating--Any protective coating used to seal porous surfaces such as steel (or concrete) that otherwise would be subject to intrusion by radioactive materials. These coatings must be resistant to long-term (service life) cumulative radiation exposure (ASTM D4082-83), relatively easy to decontaminate (ASTM D4256-83), and resistant to various chemicals to which the coatings are likely to be exposed (ASTM 3912-80). (For nuclear coatings, see the general protective requirements outlined by the U.S. Atomic Energy Commission in a report entitled "U.S. Atomic Energy Commission Regulatory Guide 1.54" dated June 1973, available through

the Government Printing Office at (202) 512-2249 as document number A74062-00001.)

(T) Organic zinc specialty coating--Any coating derived from zinc dust incorporated into an organic binder that contains more than 960 grams of elemental zinc per liter (eight pounds per gallon) of coating, as applied, and that is used for the expressed purpose of corrosion protection.

(U) Pleasure craft--Any marine or fresh-water vessel used by individuals for noncommercial, nonmilitary, and recreational purposes that is less than 20 meters (65.6 feet) in length. A vessel rented exclusively to, or chartered for, individuals for such purposes shall be considered a pleasure craft.

(V) Pretreatment wash primer specialty coating--Any coating that contains a minimum of 0.5% acid by weight that is applied only to bare metal surfaces to etch the metal surface for corrosion resistance and adhesion of subsequent coatings.

(W) Repair and maintenance of thermoplastic coating of commercial vessels (specialty coating)--Any vinyl, chlorinated rubber, or bituminous resin coating that is applied over the same type of existing coating to perform the partial recoating of any in-use commercial vessel. (This definition does not include coal tar epoxy coatings, which are considered "general use" coatings.)

(X) Rubber camouflage specialty coating--Any specially formulated epoxy coating used as a camouflage topcoat for exterior submarine hulls and sonar domes.

(Y) Sealant for thermal spray aluminum--Any epoxy coating applied to thermal spray aluminum surfaces at a maximum thickness of one dry mil.

(Z) Ship--Any marine or fresh-water vessel, including self-propelled vessels, those propelled by other craft (barges), and navigational aids (buoys). This definition includes, but is not limited to, all military and Coast Guard vessels, commercial cargo and passenger (cruise) ships, ferries, barges, tankers, container ships, patrol and pilot boats, and dredges. Pleasure craft and offshore oil or gas drilling platforms are not considered ships.

(AA) Shipbuilding and ship repair operations--Any building, repair, repainting, converting, or alteration of ships or offshore oil or gas drilling platforms.

(BB) Special marking specialty coating--Any coating that is used for safety or identification applications, such as ship numbers and markings on flight decks.

(CC) Specialty interior coating--Any coating used on interior surfaces aboard United States military vessels pursuant to a coating specification that requires the coating to meet specified fire retardant and low toxicity requirements, in addition to the other applicable military physical and performance requirements.

(DD) Tack coat specialty coating--Any thin film epoxy coating applied at a maximum thickness of two dry mils to prepare an epoxy coating that has dried beyond the time limit specified by the manufacturer for the application of the next coat.

(EE) Undersea weapons systems specialty coating--Any coating applied to any component of a weapons system intended to be launched or fired from under the sea.

(FF) Weld-through preconstruction primer (specialty coating)--A coating that provides corrosion protection for steel during inventory, is typically applied at less than one mil dry film thickness, does not require removal prior to welding, is temperature resistant (burn back from a weld is less than 1.25 centimeters (0.5 inches)), and does not normally require removal before applying film-building coatings, including inorganic zinc high-build coatings. When constructing new vessels, there may be a need to remove areas of weld-through preconstruction primer due to surface damage or contamination prior to application of film-building coatings.

(12) Automobile and light-duty truck manufacturing.

(A) Automobile coating--The assembly-line coating of passenger cars, or passenger car derivatives, capable of seating 12 or fewer passengers.

(B) Light-duty truck coating--The assembly-line coating of motor vehicles rated at 8,500 pounds (3,855.5 kg) gross vehicle weight or less and designed primarily for the transportation of property, or derivatives such as pickups, vans, and window vans.

(13) Vehicle refinishing (body shops).

(A) Basecoat/clearcoat system--A topcoat system composed of a pigmented basecoat portion and a transparent clearcoat portion. The VOC content of a basecoat (BCCA-AG)/clearcoat (cc) system shall be calculated according to the following formula.

Figure: 30 TAC §115.420(c)(13)(A)

$$\text{VOC } T_{bc/cc} = \frac{\text{VOC}_{bc} + (2 \times \text{VOC}_{cc})}{3}$$

Where:

VOC $T_{bc/cc}$ = the volatile organic compounds (VOC) content, in pounds of VOC per gallon (less water and exempt solvent) as applied, in the basecoat/clearcoat system

VOC_{bc} = the VOC content, in pounds of VOC per gallon (less water and exempt solvent) as applied, of any given basecoat

VOC_{cc} is the VOC content, in pounds of VOC per gallon (less water and exempt solvent) as applied, of any given clearcoat

(B) Precoat--Any coating that is applied to bare metal to deactivate the metal surface for corrosion resistance to a subsequent water-based primer. This coating is applied to bare metal solely for the prevention of flash rusting.

(C) Pretreatment--Any coating which contains a minimum of 0.5% acid by weight that is applied directly to bare metal surfaces to etch the metal surface for corrosion resistance and adhesion of subsequent coatings.

(D) Primer or primer surfacers--Any base coat, sealer, or intermediate coat which is applied prior to colorant or aesthetic coats.

(E) Sealers--Coatings that are formulated with resins which, when dried, are not readily soluble in typical solvents. These coatings act as a shield for surfaces over which they are sprayed by resisting the penetration of solvents which are in the final topcoat.

(F) Specialty coatings--Coatings or additives which are necessary due to unusual job performance requirements. These coatings or additives prevent the occurrence of surface defects and impart or improve desirable coating properties. These products include, but are not limited to, uniform finish blenders, elastomeric materials for coating of flexible plastic parts, coatings for non-metallic parts, jambing clear coatings, gloss flatteners, and anti-glare/safety coatings.

(G) Three-stage system--A topcoat system composed of a pigmented basecoat portion, a semitransparent midcoat portion, and a transparent clearcoat portion. The VOC content of a three-stage system shall be calculated according to the following formula:

Figure: 30 TAC §115.420(c)(13)(G)

$$\text{VOC } T_{3\text{-stage}} = \frac{\text{VOC}_{bc} + \text{VOC}_{mc} + (2 \times \text{VOC}_{cc})}{4}$$

Where:

VOC $T_{3\text{-stage}}$ = the volatile organic compounds (VOC) content, in pounds of VOC per gallon (less water and exempt solvent) as applied, in the three-stage system

VOC_{bc} = the VOC content, in pounds of VOC per gallon (less water and exempt solvent) as applied, of any given basecoat

VOC_{mc} = the VOC content, in pounds of VOC per gallon (less water and exempt solvent) as applied, of any given midcoat

VOC_{cc} = the VOC content, in pounds of VOC per gallon (less water and exempt solvent) as applied, of any given clearcoat

(H) Vehicle refinishing (body shops)--The coating of motor vehicles, as defined in §114.620 of this title (relating to Definitions), including, but not limited to, motorcycles, passenger cars, vans, light-duty trucks, medium-duty trucks, heavy-duty trucks, buses, and other vehicle body parts, bodies, and cabs by an operation other than the original manufacturer. The coating of non-road vehicles and non-road equipment, as these terms are defined in §114.3 and §114.6 of this title (relating to Low Emission Vehicle Fleet Definitions; and Low Emission Fuel Definitions), and trailers is not included.

(I) Wipe-down solutions--Any solution used for cleaning and surface preparation.

(14) Vinyl coating--The use of printing or any decorative or protective topcoat applied over vinyl sheets or vinyl-coated fabric.

(15) Wood parts and products. The following terms apply to wood parts and products coating facilities subject to §115.421(14) of this title.

(A) Clear coat--A coating which lacks opacity or which is transparent and uses the undercoat as a reflectant base or undertone color.

(B) Clear sealers--Liquids applied over stains, toners, and other coatings to protect these coatings from marring during handling and to limit absorption of succeeding coatings.

(C) Final repair coat--Liquids applied to correct imperfections or damage to the topcoat.

(D) Opaque ground coats and enamels--Colored, opaque liquids applied to wood or wood composition substrates which completely hide the color of the substrate in a single coat.

(E) Semitransparent spray stains and toners--Colored liquids applied to wood to change or enhance the surface without concealing the surface, including but not limited to, toners and nongrain-raising stains.

(F) Semitransparent wiping and glazing stains--Colored liquids applied to wood that require multiple wiping steps to enhance the grain character and to partially fill the porous surface of the wood.

(G) Shellacs--Coatings formulated solely with the resinous secretions of the lac beetle (*laccifer lacca*), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

(H) Topcoat--A coating which provides the final protective and aesthetic properties to wood finishes.

(I) Varnishes--Clear wood finishes formulated with various resins to dry by chemical reaction on exposure to air.

(J) Wash coat--A low-solids clear liquid applied over semitransparent stains and toners to protect the color coats and to set the fibers for subsequent sanding or to separate spray stains from wiping stains to enhance color depth.

(K) Wood parts and products coating--The coating of wood parts and products, excluding factory surface coating of flat wood paneling.

(16) Wood furniture manufacturing facilities. The following terms apply to wood furniture manufacturing facilities subject to §115.421(15) of this title.

(A) Adhesive--Any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means. Adhesives are not considered to be coatings or finishing materials for wood furniture manufacturing facilities subject to §115.421(15) of this title.

(B) Basecoat--A coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque finishing materials and is usually topcoated for protection.

(C) Cleaning operations--Operations in which organic solvent is used to remove coating materials from equipment used in wood furniture manufacturing operations.

(D) Continuous coater--A finishing system that continuously applies finishing materials onto furniture parts moving along a conveyor system. Finishing materials that are not transferred to the part are recycled to the finishing material reservoir. Several types of application methods can be used with a continuous coater, including spraying, curtain coating, roll coating, dip coating, and flow coating.

(E) Conventional air spray--A spray coating method in which the coating is atomized by mixing it with compressed air at an air pressure greater than 10 pounds per square inch gauge (psig) at the point of atomization. Airless and air-assisted airless spray technologies are not conventional air spray because the coating is not atomized by mixing it with compressed air. Electrostatic spray technology is also not conventional air spray because an electrostatic charge is employed to attract the coating to the workpiece. In addition, high-volume low-pressure (HVLP) spray technology is not conventional air spray because its pressure is less than 10 psig.

(F) Finishing application station--The part of a finishing operation where the finishing material is applied (for example, a spray booth).

(G) Finishing material--A coating used in the wood furniture industry. For the wood furniture manufacturing industry, such materials include, but are not limited to, basecoats, stains, washcoats, sealers, and topcoats.

(H) Finishing operation--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.

(I) Organic solvent--A liquid containing VOCs that is used for dissolving or dispersing constituents in a coating; adjusting the viscosity of a coating; cleaning; or washoff. When used in a coating, the organic solvent evaporates during drying and does not become a part of the dried film.

(J) Sealer--A finishing material used to seal the pores of a wood substrate before additional coats of finishing material are applied. Washcoats, which are used in some finishing systems to optimize aesthetics, are not sealers.

(K) Stain--Any color coat having a solids content of no more than 8.0% by weight that is applied in single or multiple coats directly to the substrate. Includes, but is not limited to, nongrain raising stains, equalizer stains, sap stains, body stains, no-wipe stains, penetrating stains, and toners.

(L) Strippable booth coating--A coating that is applied to a booth wall to provide a protective film to receive overspray during finishing operations; is subsequently peeled off and disposed; and reduces or eliminates the need to use organic solvents to clean booth walls.

(M) Topcoat--The last film-building finishing material applied in a finishing system. A material such as a wax, polish, nonoxidizing oil, or similar substance that must be periodically reapplied to a surface over its lifetime to maintain or restore the reapplied material's intended effect is not considered to be a topcoat.

(N) Touch-up and repair--The application of finishing materials to cover minor finishing imperfections.

(O) Washcoat--A transparent special purpose coating having a solids content of 12% by weight or less. Washcoats are applied over initial stains to protect and control color and to stiffen the wood fibers in order to aid sanding.

(P) Washoff operations--Those operations in which organic solvent is used to remove coating from a substrate.

(Q) Wood furniture--Any product made of wood, a wood product such as rattan or wicker, or an engineered wood product such as particleboard that is manufactured under any of the following standard industrial classification codes: 2434 (wood kitchen cabinets), 2511 (wood household furniture, except upholstered), 2512 (wood household furniture, upholstered), 2517 (wood television, radios, 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), or 5712 (custom kitchen cabinets).

(R) Wood furniture component--Any part that is used in the manufacture of wood furniture. Examples include, but are not limited to, drawer sides, cabinet doors, seat cushions, and laminated tops. However, foam seat cushions manufactured and fabricated at a facility that does not engage in any other wood furniture or wood furniture component manufacturing operation are excluded from this definition.

(S) Wood furniture manufacturing operations--The finishing, cleaning, and washoff operations associated with the production of wood furniture or wood furniture components.

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§115.421. Emission Specifications.

The owner or operator of the surface coating processes specified in §115.420(a) of this title (relating to Applicability and Definitions) shall not cause, suffer, allow, or permit volatile organic compound (VOC) emissions to exceed the specified emission limits in paragraphs (1) - (16) of this subsection. These limitations are based on the daily weighted average of all coatings delivered to each coating line, except for those in paragraph (9) of this subsection which are based on paneling surface area, and those in paragraph (15) of this subsection which, if using an averaging approach, must use one of the daily averaging equations within that paragraph. The owner or operator of a surface coating operation subject to paragraph (10) of the subsection may choose to comply by using the monthly weighted average option as defined in §115.420(c)(1)(YY) of this title.

(1) Large appliance coating. VOC emissions from the application, flashoff, and oven areas during the coating of large appliances (prime and topcoat, or single coat) must not exceed 2.8 pounds per gallon of coating (minus water and exempt solvent) delivered to the application system (0.34 kilogram/liter (kg/liter)).

(2) Metal furniture coating. VOC emissions from metal furniture coating lines (prime and topcoat, or single coat) must not exceed 3.0 pounds per gallon of coating (minus water and exempt solvent) delivered to the application system (0.36 kg/liter).

(3) Coil coating. VOC emissions from the coating (prime and topcoat, or single coat) of metal coils must not exceed 2.6 pounds per gallon of coating (minus water and exempt solvent) delivered to the application system (0.31 kg/liter).

(4) Paper coating. VOC emissions from the coating of paper (or specified tapes or films) must not exceed 2.9 pounds per gallon of coating (minus water and exempt solvent) delivered to the application system (0.35 kg/liter).

(5) Fabric coating. VOC emissions from the coating of fabric must not exceed 2.9 pounds per gallon of coating (minus water and exempt solvent) delivered to the application system (0.35 kg/liter).

(6) Vinyl coating. VOC emissions from the coating of vinyl fabrics or sheets must not exceed 3.8 pounds per gallon of coating (minus water and exempt solvent)

delivered to the application system (0.45 kg/liter). Plastisol coatings should not be included in calculations.

(7) Can coating. The following VOC emission limits must be achieved, on the basis of VOC solvent content per unit of volume of coating (minus water and exempt solvent) delivered to the application system:

Figure: 30 TAC §115.421(7)

Affected Operation	Pounds of Volatile Organic Compounds (VOC) per Gallon of Coating	Kilogram of VOC per Liter of Coating
Sheet Basecoat (Exterior and Interior) and Over-Varnish	2.8	0.34
Two-Piece Can Exterior (Base-Coat and Over-Varnish)	2.8	0.34
Two- and Three-Piece Can Interior Body Spray, Two-Piece Can Exterior End (Spray or Roll Coat)	4.2	0.51
Three-Piece Can Side-Seam Spray	5.5	0.66
End Sealing Compound	3.7	0.44

(8) Miscellaneous metal parts and products (MMPP) coating.

(A) VOC emissions from the coating of MMPP must not exceed the following limits for each surface coating type:

Figure: 30 TAC §115.421(8)(A)

Coating Type	Pounds of Volatile Organic Compounds (VOC) per Gallon of Coating	Kilogram of VOC per Gallon of Coating
Clear Coat or an Interior Protective Coating for Pails and Drums	4.3	0.52
Low-Bake Coating or Coating Using Air or Forced Air Driers	3.5	0.42
Extreme Performance	3.5	0.42

Coating, Including Milling Maskants		
All Other Coating Applications that Pertain to MMPP, Including High-Bake Coatings	3.0	0.36

(B) If more than one emission limitation in subparagraph (A) of this paragraph applies to a specific coating, then the least stringent emission limitation applies.

(C) All VOC emissions from non-exempt solvent washings must be included in determination of compliance with the emission limitations in subparagraph (A) of this paragraph unless the solvent is directed into containers that prevent evaporation into the atmosphere.

(9) Factory surface coating of flat wood paneling. The following emission limits apply to each product category of factory-finished paneling (regardless of the number of coats applied):

Figure: 30 TAC §115.421(9)

Product Category	Pounds of volatile organic compounds (VOC) per 1,000 Square Feet of Coated Surface	Kilograms of VOC per 100 Meters Squared of Coated Surface
Printed Interior Wall Panels Made of Hardwood Plywood and Thin Particle Board (Less Than 1/4 Inch) in Thickness	6.0	2.9
Natural Finish Hardwood Plywood Panels	12.0	5.8
Hardwood Paneling with Class II Finish (American National Standard Institute Standard PS-59-73)	10.0	4.8

(10) Aerospace coatings. The VOC content of coatings, including any VOC-containing materials added to the original coating supplied by the manufacturer, that are applied to aerospace vehicles or components must not exceed the following limits (in grams of VOC per liter of coating, less water and exempt solvent). The following applications are exempt from the VOC content limits of this paragraph: manufacturing

or re-work of space vehicles or antique aerospace vehicles or components of each; touchup; United States Department of Defense classified coatings; and separate coating formulations in volumes less than 50 gallons per year to a maximum of 200 gallons per year for all such formulations at an account.

(A) For the broad categories of primers, topcoats, and chemical milling maskants (Type I/II) which are not specialty coatings as listed in subparagraph (B) of this paragraph:

- (i) primer, 350;
- (ii) topcoats (including self-priming topcoats), 420; and
- (iii) chemical milling maskants:
 - (I) Type I, 622; and
 - (II) Type II, 160.

(B) For specialty coatings:

Figure: 30 TAC §115.421(10)(B)

VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR SPECIALTY COATINGS (IN GRAMS OF VOC PER LITER OF COATING, LESS WATER AND EXEMPT SOLVENT)

Coating type	Limit	Coating type	Limit
Ablative Coating	600		
Adhesion Promoter	890		
Adhesive Bonding Primers:			
Cured at 250°F or below	850		
Cured above 250°F	1030		
Adhesives:			
Commercial Interior Adhesive	760		
Cyanoacrylate Adhesive	1,020		
Fuel Tank Adhesive	620		
Nonstructural Adhesive	360		
Rocket Motor Bonding Adhesive	890		
Rubber-based Adhesive	850		
Structural Autoclavable Adhesive	60		
Structural Nonautoclavable Adhesive	850		
Antichafe Coating	660		

Bearing Coating	620
Caulking and Smoothing Compounds	850
Chemical Agent-Resistant Coating	550
Clear Coating	720
Commercial Exterior Aerodynamic Structure Primer	650
Compatible Substrate Primer	780
Corrosion Prevention Compound	710
Cryogenic Flexible Primer	645
Dry Lubricative Material	880
Cryoprotective Coating	600
Electric or Radiation-Effect Coating	800
Electrostatic Discharge and Electromagnetic Interference (EMI) Coating	800
Elevated-Temperature Skydrol-Resistant Commercial Primer	740
Epoxy Polyamide Topcoat	660
Fire-Resistant (interior) Coating	800
Flexible Primer	640
Flight-Test Coatings:	
Missile or Single Use Aircraft	420
All Other	840
Fuel-Tank Coating	720
High-Temperature Coating	850
Insulation Covering	740
Intermediate Release Coating	750
Lacquer	830
Maskants:	
Bonding Maskant	1,230
Critical Use and Line Sealer Maskant	1,020
Seal Coat Maskant	1,230
Metallized Epoxy Coating	740
Mold Release	780
Optical Anti-Reflective Coating	750
Part Marking Coating	850
Pretreatment Coating	780
Rain Erosion-Resistant Coating	850
Rocket Motor Nozzle Coating	660
Scale Inhibitor	880
Screen Print Ink	840
Sealants:	
Extrudable/Rollable/Brushable Sealant	280
Sprayable Sealant	600

Silicone Insulation Material 850
 Solid Film Lubricant 880
 Specialized Function Coating 890
 Temporary Protective Coating 320
 Thermal Control Coating 800
 Wet Fastener Installation Coating 675
 Wing Coating 850

(11) Automobile and light-duty truck manufacturing coating. The following VOC emission limits must be achieved, on the basis of solvent content per unit volume of coating (minus water and exempt solvents) delivered to the application system or for primer surfacer and top coat application, compliance may be demonstrated on the basis of VOC emissions per unit volume of solids deposited as determined by §115.425(3) of this title (relating to Testing Requirements).

Figure: 30 TAC §115.421(11)

Operation (Including Application, Flashoff, and Oven Areas)	Coating Delivered (Minus Water and Exempt Solvent) Pounds of Volatile Organic Compounds (VOC) per Gallon of Coating	Coating Delivered (Minus Water and Exempt Solvent) Kilogram of VOC per Liter of Coating	Solids Deposited Pounds of VOC per Gallon of Solids	Solids Deposited Kilograms per Liter of Solids
Prime Application (Body and Front- End Sheet Metal)	1.2	0.15	Not Applicable	Not Applicable
Primer Surfacer Application	2.8	0.34	15.1	1.81
Topcoat Application	2.8	0.34	15.1	1.81
Final Repair Application End Sealing Compound	4.8	0.58	*	*

* As an alternative to the emission limitation of 4.8 pounds of VOC per gallon of coating applied for final repair, if a source owner does not compile records sufficient to enable determination of a daily weighted average VOC content, compliance with the final repair emission limitation may be demonstrated each day by meeting a standard of 4.8 pounds

of VOC per gallon of coating (minus water and exempt solvents) on an occurrence weighted average basis. Compliance with such alternative emission limitation shall be determined in accordance with the procedure specified in §115.425(3) of this title.

(12) Vehicle refinishing coating (body shops). VOC emissions from coatings or solvents must not exceed the following limits, as delivered to the application system. Additional control requirements for vehicle refinishing (body shops) are referenced in §115.422 of this title (relating to Control Requirements).

Figure: 30 TAC §115.421(12)

Coating Type (Minus Water and Exempt Solvent)	Pounds of Volatile Organic Compounds (VOC) per Gallon of Coating	Kilograms of VOC per Liter of Coating
Primer or Primer Surfacer	5.0	0.60
Precoat	5.5	0.66
Pretreatment	6.5	0.78
Single-Stage Topcoats	5.0	0.60
Basecoat or Clearcoat Systems	5.0	0.60
Three-Stage Systems	5.2	0.62
Specialty Coatings	7.0	0.84
Sealers	6.0	0.72
Wipe-Down Solutions	1.4	0.17

(13) Surface coating of mirror backing.

(A) VOC emissions from the coating of mirror backing must not exceed the following limits for each surface coating application method:

(i) 4.2 pounds per gallon (0.50 kg/liter) of coating (minus water and exempt solvent) delivered to a curtain coating application system; and

(ii) 3.6 pounds per gallon (0.43 kg/liter) of coating (minus water and exempt solvent) delivered to a roll coating application system.

(B) All VOC emissions from solvent washings must be included in determination of compliance with the emission limitations in subparagraph (A) of this paragraph, unless the solvent is directed into containers that prevent evaporation into the atmosphere.

(14) Surface coating of wood parts and products. VOC emissions from the coating of wood parts and products must not exceed the following limits, as delivered to the application system, for each surface coating type. All VOC emissions from solvent washings must be included in determination of compliance with the emission limitations in this paragraph, unless the solvent is directed into containers that prevent evaporation into the atmosphere.

Figure: 30 TAC §115.421(14)

Coating Type (Minus Water and Exempt Solvent)	Pounds of Volatile Organic Compounds (VOC) per Gallon of Coating	Kilograms of VOC per Liter of Coating
Clear Topcoat	5.9	0.71
Wash Coat	6.5	0.78
Final Repair Coat	6.0	0.72
Semitransparent Wiping and Glazing Stain	6.6	0.79
Semitransparent Spray Stains and Toners	6.9	0.83
Opaque Ground Coats and Enamels	5.5	0.66
Clear Sealers	6.2	0.74
Clear Shellac	5.4	0.65
Opaque Shellac	5.0	0.60
Varnish	5.0	0.60
All Other Coatings	7.0	0.84

(15) Surface coating at wood furniture manufacturing facilities. For facilities which are subject to this paragraph, adhesives are not considered to be coatings or finishing materials.

(A) VOC emissions from finishing operations must be limited by:

(i) using topcoats with a VOC content no greater than 0.8 kilogram of VOC per kilogram of solids (0.8 pound of VOC per pound of solids), as delivered to the application system; or

(ii) using a finishing system of sealers with a VOC content no greater than 1.9 kilograms of VOC per kilogram of solids (1.9 pounds of VOC per pound of solids), as applied, and topcoats with a VOC content no greater than 1.8 kilograms of VOC per kilogram of solids (1.8 pounds of VOC per pound of solids), as delivered to the application system; or

(iii) for wood furniture manufacturing facilities using acid-cured alkyd amino vinyl sealers or acid-cured alkyd amino conversion varnish topcoats, using sealers and topcoats that meet the following criteria:

(I) if the wood furniture manufacturing facility uses acid-cured alkyd amino vinyl sealers and acid-cured alkyd amino conversion varnish topcoats, the sealer must contain no more than 2.3 kilograms of VOC per kilogram of solids (2.3 pounds of VOC per pound of solids), as applied, and the topcoat must contain no more than 2.0 kilograms of VOC per kilogram of solids (2.0 pounds of VOC per pound of solids), as delivered to the application system; or

(II) if the wood furniture manufacturing facility uses a sealer other than an acid-cured alkyd amino vinyl sealer and acid-cured alkyd amino conversion varnish topcoats, the sealer must contain no more than 1.9 kilograms of VOC per kilogram of solids (1.9 pounds of VOC per pound of solids), as applied, and the topcoat must contain no more than 2.0 kilograms of VOC per kilogram of solids (2.0 pounds of VOC per pound of solids), as delivered to the application system; or

(III) if the wood furniture manufacturing facility uses an acid-cured alkyd amino vinyl sealer and a topcoat other than an acid-cured alkyd amino conversion varnish topcoat, the sealer must contain no more than 2.3 kilograms of VOC per kilogram of solids (2.3 pounds of VOC per pound of solids), as applied, and the topcoat must contain no more than 1.8 kilograms of VOC per kilogram of solids (1.8 pounds of VOC per pound of solids), as delivered to the application system; or

(iv) using an averaging approach and demonstrating that actual daily emissions from the wood furniture manufacturing facility are less than or equal to the lower of the actual versus allowable emissions using one of the following inequalities:

Figure: 30 TAC §115.421(15)(A)(iv)

$$0.9 (0.8 (TC_1 + TC_2 + \dots)) > (ER_{TC1} (TC_1) + (ER_{TC2} (TC_2) + \dots)) \text{ (Inequality 1)}$$

$$\begin{aligned} &0.9 \{1.8 (TC_1 + TC_2 + \dots)\} + \{1.9 (SE_1 + SE_2 + \dots)\} + \text{(Inequality 2)} \\ &\{9.0 (WC_1 + WC_2 + \dots)\} + \{1.2 (BC_1 + BC_2 + \dots)\} + \\ &\{0.791 (ST_1 + ST_2 + \dots)\} > \{ER_{TC1} (TC_1) + ER_{TC2} (TC_2) + \dots\} + \\ &\{ER_{SE1} (SE_1) + ER_{SE2} (SE_2) + \dots\} + \{ER_{WC1} (WC_1) + ER_{WC2} (WC_2) + \dots\} + \\ &\{ER_{BC1} (BC_1) + ER_{BC2} (BC_2) + \dots\} + \{ER_{ST1} (ST_1) + ER_{ST2} (ST_2) + \dots\} \end{aligned}$$

Where:

- 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;
- ER_{TC_i} = volatile organic compounds (VOC) content of topcoat "i" in kilograms of VOC per kilogram of solids, as delivered to the application system;
- ER_{SE_i} = VOC content of sealer "i" in kilograms of VOC per kilogram of solids, as delivered to the application system;
- ER_{WC_i} = VOC content of washcoat "i" in kilograms of VOC per kilogram of solids, as delivered to the application system;
- ER_{BC_i} = VOC content of basecoat "i" in kilograms of VOC per kilogram of solids, as delivered to the application system; and
- ER_{ST_i} = VOC content of stain "i" in kilograms of VOC per kilogram of solids, as delivered to the application system.

In inequalities (1) and (2) the facility must use the actual VOC content of the finishing materials used before they were subject to this paragraph if the VOC content is less than the allowed VOC content. For example, if the facility was using topcoats with a VOC content of 1.7 kilograms of VOC per kilogram of solids (1.7 pounds of VOC per pound of solids) before being subject to this paragraph, they must use that value in Inequality (2) rather than 1.8; or

(v) using a vapor control system that will achieve an equivalent reduction in emissions as the requirements of clauses (i) or (ii) of this subparagraph. If this option is used, the requirements of §115.423(3) of this title do not apply; or

(vi) using a combination of the methods presented in clauses (i) - (v) of this subparagraph.

(B) Strippable booth coatings used in cleaning operations must not contain more than 0.8 kilogram of VOC per kilogram of solids (0.8 pound of VOC per pound of solids), as delivered to the application system.

(16) Marine coatings.

(A) The following VOC emission limits apply to the surface coating of ships and offshore oil or gas drilling platforms at shipbuilding and ship repair operations, and are based upon the VOC content of the coatings as delivered to the application system.

Figure: 30 TAC §115.421(16)(A)

Coating Category	Grams of volatile organic compounds (VOC) per liter coating (minus water and exempt solvent) ^{a, b}	Pounds of VOC per gallon coating (minus water and exempt solvent) ^{a, b}	Grams of VOC per liter solids ^c when $t \geq 4.5^\circ\text{C}$ (40° F)	Grams of VOC per liter of solids ^c when $t < 4.5^\circ\text{C}$ (40° F) ^d
General use	340	2.83	571	728
Specialty:				
Air flask	340	2.83	571	728
Antenna	530	4.42	1,439	-----
Antifoulant	400	3.33	765	971
Heat resistant	420	3.5	841	1,069
High-gloss	420	3.5	841	1,069
High-temperature	500	4.17	1,237	1,597
Inorganic zing high-build	340	2.83	571	728
Military exterior	340	2.83	571	728
Mist	610	2.08	2,235	-----
Navigational aids	550	4.58	1,597	-----
Nonskid	340	2.83	571	728
Nuclear	420	3.50	841	1,069

Organic zinc	360	3.00	630	802
Pretreatment wash primer	780	6.50	11,095	-----
Repair and maintenance of thermoplastics	550	4.58	1,597	-----
Rubber camouflage	340	2.83	571	728
Sealant for thermal spray aluminum	610	5.08	2,235	-----
Special marking	490	4.08	1,178	-----
Specialty interior	340	2.83	571	728
Tack coat	610	5.08	2,235	-----
Undersea weapons systems	340	2.83	571	728
Weld-through preconstruction primer	650	5.42	2,885	-----

^aThe limits are expressed in two sets of equivalent units: grams per liter of coating (minus water and exempt solvent); and grams per liter of solids. Either set of limits may be used to demonstrate compliance.

^b To convert from grams/liter to pounds/gallon, multiply by (3.785 liters/gallon)(pound/453.6 grams) or 1/120. For compliance purposes, metric units define the standards.

^c VOC limits expressed in units of mass of VOC per volume of solids were derived from the VOC limits expressed in units of mass of VOC per volume of coating assuming the coatings contain no water or exempt compounds and that the volumes of all components within a coating are additive.

^d These limits apply during cold-weather time periods (i.e., temperatures below 4.5 degrees Celsius (40 degrees Fahrenheit)). Cold-weather allowances are not given to coatings in categories that permit less than 40% solids nonvolatiles) content by volume. Such coatings are subject to the same limits regardless of weather conditions.

(B) For a coating to which thinning solvent is routinely or sometimes added, the owner or operator shall determine the VOC content as follows.

(i) Prior to the first application of each batch, designate a single thinner for the coating and calculate the maximum allowable thinning ratio (or ratios, if the shipbuilding and ship repair operation complies with the cold-weather limits in addition to the other limits specified in subparagraph (A) of this paragraph) for each batch as follows.

Figure: 30 TAC §115.421(16)(B)(i)

$$R = \frac{(V_s)(\text{VOC limit}) - m_{\text{VOC}}}{D_{\text{th}}} \quad (\text{Equation 1})$$

Where:

R = Maximum allowable thinning ratio for a given batch (liters of thinner per liter of coating as supplied);

V_s = Volume fraction of solids in the batch as supplied (liter of solids per liter of coating as supplied);

VOC limit = Maximum allowable as-applied volatile organic compounds (VOC) content of the coating (grams of VOC per liter of solids);

m_{VOC} = VOC content of the batch as supplied (grams of VOC per liter of coating as supplied); and

D_{th} = Density of the thinner (grams per liter).

(ii) If the volume fraction of solids in the batch as supplied V_s is not supplied directly by the coating manufacturer, the owner or operator shall determine V_s as follows.

Figure: 30 TAC §115.421(16)(B)(ii)

$$V_s = \frac{1 - (m_{\text{volatiles}})}{D_{\text{avg}}} \quad (\text{Equation 2})$$

Where:

V_s = Volume fraction of solids in the batch (liter of solids per liter of coating);

m_{volatiles} = Total volatiles in the batch, including volatile organic compounds (VOC), water, and exempt compounds (grams per liter of coating); and

D_{avg} = Average density of volatiles in the batch (grams per liter).

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§115.422. Control Requirements.

In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Applicability and Definitions), the following control requirements apply. In Gregg, Nueces, and Victoria Counties, the control requirements in paragraph (5) of this section apply.

(1) The owner or operator of each vehicle refinishing (body shop) operation shall minimize volatile organic compounds (VOC) emissions during equipment cleanup by using the following procedures:

(A) install and operate a system that totally encloses spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, and draining procedures. Non-enclosed cleaners may be used if the vapor pressure of the cleaning solvent is less than 100 millimeters of mercury (mm Hg) at 20 degrees Celsius (68 degrees Fahrenheit) and the solvent is directed towards a drain that leads directly to an enclosed remote reservoir;

(B) keep all wash solvents in an enclosed reservoir that is covered at all times, except when being refilled with fresh solvents; and

(C) keep all waste solvents and other cleaning materials in closed containers.

(2) Each vehicle refinishing (body shop) operation must use coating application equipment with a transfer efficiency of at least 65%, unless otherwise specified in an alternate means of control approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control). High-volume, low-pressure (HVLP) spray guns are assumed to comply with the 65% transfer efficiency requirement.

(3) The following requirements apply to each wood furniture manufacturing facility subject to §115.421(15) of this title (relating to Emission Specifications).

(A) No compounds containing more than 8.0% by weight of VOC may be used for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, and/or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, no more than 1.0 gallon of organic solvent may be used to prepare the booth prior to applying the booth coating.

(B) Normally closed containers must be used for storage of finishing, cleaning, and washoff materials.

(C) Conventional air spray guns may not be used for applying finishing materials except under one or more of the following circumstances:

(i) to apply finishing materials that have a VOC content no greater than 1.0 kilogram of VOC per kilogram of solids (1.0 pound of VOC per pound of solids), as delivered to the application system;

(ii) for touch-up and repair under the following circumstances:

(I) the finishing materials are applied after completion of the finishing operation; or

(II) the finishing materials are applied after the stain and before any other type of finishing material is applied, and the finishing materials are applied from a container that has a volume of no more than 2.0 gallons.

(iii) if spray is automated, that is, the spray gun is aimed and triggered automatically, not manually;

(iv) if emissions from the finishing application station are directed to a vapor control system;

(v) the conventional air gun is used to apply finishing materials and the cumulative total usage of that finishing material is no more than 5.0% of the total gallons of finishing material used during that semiannual period; or

(vi) the conventional air gun is used to apply stain on a part that:

(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.

(D) All organic solvent used for line cleaning or to clean spray guns must be pumped or drained into a normally closed container.

(E) Emissions from washoff operations must be minimized by:

- (i) using normally closed tanks for washoff; and
- (ii) minimizing dripping by tilting or rotating the part to drain as much organic solvent as possible.

(4) The following requirements apply to each shipbuilding and ship repair surface coating facility subject to §115.421(16) of this title.

(A) All handling and transfer of VOC-containing materials to and from containers, tanks, vats, drums, and piping systems must be conducted in a manner that minimizes spills.

(B) All containers, tanks, vats, drums, and piping systems must be free of cracks, holes, and other defects and remain closed unless materials are being added to or removed from them.

(C) All organic solvent used for line cleaning or to clean spray guns must be pumped or drained into a normally closed container.

(5) The following requirements apply to each aerospace vehicle or component coating process subject to §115.421(10) of this title.

(A) One or more of the following application techniques must be used to apply any primer or topcoat to aerospace vehicles or components: flow/curtain coating; dip coating; roll coating; brush coating; cotton-tipped swab application; electrodeposition coating; HVLP spraying; electrostatic spraying; or other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods, unless one of the following situations apply:

(i) any situation that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces;

(ii) the application of specialty coatings;

(iii) the application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the executive director has determined cannot be applied by any of the specified application methods;

(iv) the application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.) and that the executive

director has determined cannot be applied by any of the specified application methods in this subparagraph;

(v) the use of airbrush application methods for stenciling, lettering, and other identification markings;

(vi) the use of aerosol coating (spray paint) application methods; and

(vii) touch-up and repair operations.

(B) Cleaning solvents used in hand-wipe cleaning operations must meet the definition of aqueous cleaning solvent in §115.420(c)(1)(I) of this title (relating to Surface Coating Definitions) or have a VOC composite vapor pressure less than or equal to 45 mm Hg at 20 degrees Celsius, unless one of the following situations apply:

(i) cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

(ii) cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, hydrazine);

(iii) cleaning and surface activation prior to adhesive bonding;

(iv) cleaning of electronics parts and assemblies containing electronics parts;

(v) cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;

(vi) cleaning of fuel cells, fuel tanks, and confined spaces;

(vii) surface cleaning of solar cells, coated optics, and thermal control surfaces;

(viii) cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used on the interior of the aircraft;

(ix) cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

(x) cleaning of aircraft transparencies, polycarbonate, or glass substrates;

(xi) cleaning and solvent usage associated with research and development, quality control, or laboratory testing;

(xii) cleaning operations, using nonflammable liquids, conducted within five feet of energized electrical systems. Energized electrical systems means any alternating current or direct current electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and

(xiii) cleaning operations identified as essential uses under the Montreal Protocol that the United States Environmental Protection Agency (EPA) has allocated essential use allowances or exemptions in 40 Code of Federal Regulations §82.4 (as amended through May 10, 1995 (60 FR 24986)), including any future amendments promulgated by the EPA.

(C) For cleaning solvents used in the flush cleaning of parts, assemblies, and coating unit components, the used cleaning solvent must be emptied into an enclosed container or collection system that is kept closed when not in use or captured with wipers provided they comply with the housekeeping requirements of subparagraph (E) of this paragraph. Aqueous and semiaqueous cleaning solvents are exempt from this subparagraph.

(D) All spray guns must be cleaned by one or more of the following methods:

(i) enclosed spray gun cleaning system provided that it is kept closed when not in use and leaks are repaired within 14 days from when the leak is first discovered. If the leak is not repaired by the 15th day after detection, the solvent must be removed and the enclosed cleaner must be shut down until the leak is repaired or its use is permanently discontinued;

(ii) unatomized discharge of solvent into a waste container that is kept closed when not in use;

(iii) disassembly of the spray gun and cleaning in a vat that is kept closed when not in use; or

(iv) atomized spray into a waste container that is fitted with a device designed to capture atomized solvent emissions.

(E) All fresh and used cleaning solvents used in solvent cleaning operations must be stored in containers that are kept closed at all times except when filling or emptying. Cloth and paper, or other absorbent applicators, moistened with cleaning solvents must be stored in closed containers. Cotton-tipped swabs used for very small cleaning operations are exempt from this subparagraph. In addition, the owner or operator shall implement handling and transfer procedures to minimize spills during filling and transferring the cleaning solvent to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or used cleaning solvents. The requirements of this subparagraph are known collectively as housekeeping measures. Aqueous, semiaqueous, and hydrocarbon-based cleaning solvents, as defined in §115.420(c)(1) of this title, are exempt from this subparagraph.

(6) Any surface coating operation in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas that becomes subject to §115.421 of this title by exceeding the exemption limits in §115.427 of this title (relating to Exemptions) is subject to the provisions in §115.421 of this title, even if throughput or emissions later fall below exemption limits unless emissions are maintained at or below the controlled emissions level achieved while complying with §115.421 of this title and one of the following conditions is met.

(A) The project that caused the throughput or emission rate to fall below the exemption limits in §115.427 of this title must be authorized by a permit, permit amendment, standard permit, or permit by rule required by Chapter 116 or Chapter 106 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification; and Permits by Rule). If a permit by rule is available for the project, the owner or operator shall continue to comply with §115.421 of this title for 30 days after the filing of documentation of compliance with that permit by rule.

(B) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.

(7) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the owner or operator of a paper surface coating line subject to this division shall implement the following work practices to limit VOC emissions from storage, mixing, and handling of cleaning and cleaning-related waste materials.

(A) All VOC-containing cleaning materials must be stored in closed containers.

(B) Mixing and storage containers used for VOC-containing materials must be kept closed at all times except when depositing or removing these materials.

(C) Spills of VOC-containing cleaning materials must be minimized.

(D) VOC-containing cleaning materials must be conveyed from one location to another in closed containers or pipes.

(E) VOC emissions from the cleaning of storage, mixing, and conveying equipment must be minimized.

Adopted June 3, 2015

Effective June 25, 2015

§115.423. Alternate Control Requirements.

The alternate control requirements for surface coating processes in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties are as follows.

(1) Emission calculations for surface coating operations performed to satisfy the conditions of §101.23 of this title (relating to Alternate Emission Reduction ("Bubble") Policy), §115.910 of this title (relating to Availability of Alternate Means of Control), or other demonstrations of equivalency with the specified emission limits in this division must be based on the pounds of volatile organic compounds (VOC) per gallon of solids for all affected coatings. The owner or operator shall use the following equation to convert emission limits from pounds of VOC per gallon of coating to pounds of VOC per gallon of solids:

Figure: 30 TAC §115.423(1)

$$S = C / (1 - C / D)$$

where:

S = the applicable emission limit from §115.421 expressed on a pounds of VOC per gallon of solids basis

C = the applicable emission limit from §115.421 expressed on a pounds of VOC per gallon of coating basis

D = an assumed solvent density of 7.36 pounds of VOC per gallon

(2) Any alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division, such as use of improved transfer efficiency, may be approved by the executive director in accordance with §115.910 of this title if emission reductions are demonstrated to be substantially equivalent.

(3) If a vapor control system is used to control emissions from coating operations:

(A) the capture and abatement system must be capable of achieving and maintaining emission reductions equivalent to the emission limitations of §115.421 of this title (relating to Emission Specifications) and an overall control efficiency of at least 80% of the VOC emissions from those coatings. The owner or operator shall use the following equation to determine the minimum overall control efficiency necessary to demonstrate equivalency with the emission limitations of §115.421 of this title:

Figure: 30 TAC §115.423(3)(A)

$$E = (\text{VOC}_a - S) / \text{VOC}_a$$

Where:

E = the required overall control efficiency

VOC_a = the volatile organic compounds (VOC) content of the coatings used on the coating line expressed on a pounds of VOC per gallon of solids basis. The owner or operator may choose to use either a daily weighted average or the maximum VOC content.

S = the applicable emission limit from §115.421 of this title expressed on a pounds of VOC per gallon of solids basis (as calculated in paragraph (1) of this section)

(B) the owner or operator shall submit design data for each capture system and emission control device that is proposed for use to the executive director for approval. In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, capture efficiency testing must be performed in accordance with §115.425(4) of this title (relating to Testing Requirements).

(4) For any surface coating process or processes at a specific property, the executive director may approve requirements different from those in §115.421(8) of this title based upon his determination that such requirements will result in the lowest emission rate that is technologically and economically reasonable. When such a determination is made, the executive director shall specify the date or dates by which such different requirements must be met and shall specify any requirements to be met in the interim. If the emissions resulting from such different requirements equal or exceed 25 tons a year for a property, the determinations for that property must be reviewed every five years. Executive director approval does not necessarily constitute satisfaction of all federal requirements nor eliminate the need for approval by the United States Environmental Protection Agency in cases where specified criteria for determining equivalency have not been clearly identified in applicable sections of this chapter.

Adopted June 3, 2015

Effective June 25, 2015

§115.424. Inspection Requirements.

(a) The owner or operator of each surface coating process subject to §115.421 of this title (relating to Emissions Specifications) must provide samples, without charge, upon request by representatives of the executive director, EPA, or local air pollution control agency.

(b) The representative or inspector requesting the sample will determine the amount of coating needed to test the sample to determine compliance.

Adopted June 29, 2000

Effective July 20, 2000

§115.425. Testing Requirements.

The testing requirements for surface coating processes in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties are as follows.

(1) The owner or operator shall determine compliance with §115.421 of this title (relating to Emission Specifications) by applying the following test methods, as appropriate, except as specified in paragraph (5) of this section. Where a test method also inadvertently measures compounds that are exempt solvent, an owner or operator may exclude these exempt solvents when determining compliance with an emission standard:

(A) Test Method 24 (40 Code of Federal Regulations (CFR) Part 60, Appendix A) with a one-hour bake;

(B) ASTM International Test Methods D 1186-06.01, D 1200-06.01, D 3794-06.01, D 2832-69, D 1644-75, and D 3960-81;

(C) The United States Environmental Protection Agency (EPA) guidelines series document "Procedures for Certifying Quantity of Volatile Organic Compounds (VOC) Emitted by Paint, Ink, and Other Coatings (EPA-450/3-84-019)," as in effect December, 1984;

(D) additional test procedures described in 40 Code of Federal Regulations (CFR) §60.446; or

(E) minor modifications to these test methods approved by the executive director.

(2) Compliance with §115.423(3) of this title (relating to Alternate Control Requirements) must be determined by applying the following test methods, as appropriate:

(A) Test Methods 1-4 (40 CFR Part 60, Appendix A) for determining flow rates, as necessary;

(B) Test Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(C) Test Method 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(D) additional performance test procedures described in 40 CFR §60.044; or

(E) minor modifications to these test methods approved by the executive director.

(3) Compliance with the alternative emission limits in §115.421(11) of this title must be determined by applying the following test methods, as appropriate:

(A) Protocol for Determining the Daily VOC Emission Rate of Automobile and Light-Duty Truck Topcoat Operations (EPA 450/3-88-018); or

(B) The procedure contained in this paragraph for determining daily compliance with the alternative emission limitation in §115.421(11) of this title for

final repair. Calculation of occurrence weighted average for each combination of repair coatings (primer, specific basecoat, clearcoat) must be determined by the following procedure.

(i) The characteristics identified below, which are represented in the following equations by the variables shown, are established for each repair material as sprayed:

Figure: 30 TAC §115.425(3)(B)(i)

	Primer	Basecoat	Clearcoat
Volatile Organic Compounds (VOC) (pounds per gallon)	Vp	Vb	Vc
Volume solids of coating (minus water and exempt solvents) (%)	Sp	Sb	Sc
Target dry film build (mils)	Tp	Tb	Tc

(ii) The relative occurrence weighted usage is calculated as follows:

Figure: 30 TAC §115.425(3)(B)(ii)

Relative Primer Usage (Up)

$$Up = Tp \times (100 / Sp)$$

Relative Basecoat Usage (Ub)

$$Ub = Tb \times (100 / Sb)$$

Relative Clearcoat Usage (Uc)

$$Uc = Tc \times (100 / Sc)$$

(iii) The occurrence weighted average (Q) in pounds of VOC per gallon of coating (minus water and exempt solvents) as applied for each potential combination of repair coatings is calculated according to paragraph (4) of this section.

Figure: 30 TAC §115.425(3)(B)(iii)

$$Q = \frac{(U_p \times V_p) + (U_b \times V_b) + (U_c \times V_c)}{(U_p) + (U_b) + (U_c)}$$

(4) In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, the owner or operator of surface coating processes subject to §115.423(3) of this title shall measure the capture efficiency using applicable procedures outlined in 40 CFR §52.741, Subpart O, Appendix B. These procedures are: Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure; Procedure L- VOC Input; Procedure G.2-Captured VOC Emissions (Dilution Technique); Procedure F.1-Fugitive VOC Emissions from Temporary Enclosures; and Procedure F.2-Fugitive VOC Emissions from Building Enclosures.

(A) Exemptions to capture efficiency testing requirements:

(i) If a source installs a permanent total enclosure (PTE) that meets the specifications of Procedure T and directs all VOC to a control device, then the capture efficiency is assumed to be 100%, and the source is exempted from capture efficiency testing requirements. This does not exempt the source from performance of any control device efficiency testing that may be required. In addition, a source must demonstrate all criteria for a PTE are met during testing for control efficiency.

(ii) If a source uses a control device designed to collect and recover VOC (e.g., carbon adsorption system), an explicit measurement of capture efficiency is not necessary if the following conditions are met. The overall control of the system can be determined by directly comparing the input liquid VOC to the recovered liquid VOC. The general procedure for use in this situation is given in 40 CFR §60.433, with the following additional restrictions.

(I) The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average. This must be done within 72 hours following each 24-hour period of the 30-day period.

(II) The solvent recovery system (i.e., capture and control system) must be dedicated to a single process line (e.g., one process line venting to a carbon adsorber system); or if the solvent recovery system controls multiple process lines, the source must be able to demonstrate that the overall control (i.e., the total recovered solvent VOC divided by the sum of liquid VOC input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.

(B) The capture efficiency must be calculated using one of the following four protocols referenced. Any affected source must use one of these protocols, unless a suitable alternative protocol is approved by the executive director and the EPA.

(i) Gas/gas method using Temporary Total Enclosure (TTE). The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.425(4)(B)(i)

$$CE = Gw / (Gw + Fw)$$

where:

CE = capture efficiency, decimal fraction

Gw = mass of VOC captured and delivered to control device using a TTE (use Procedure G.2)

Fw = mass of fugitive VOC that escapes from a TTE (use Procedure F.1)

(ii) Liquid/gas method using TTE. The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.425(4)(B)(ii)

$$CE = (L - F) / L$$

where:

CE = capture efficiency, decimal fraction

L = mass of liquid VOC input to process (use Procedure L)

F = mass of fugitive VOC that escapes from a TTE (use Procedure F.1)

(iii) Gas/gas method using the building or room in which the affected source is located as the enclosure (BE) and in which G and F are measured

while operating only the affected facility. All fans and blowers in the BE must be operating as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.425(4)(B)(iii)

$$CE = G / (G + Fb)$$

where:

- CE = capture efficiency, decimal fraction
- G = mass of VOC captured and delivered to a control device (use Procedure G.2)
- Fb = mass of fugitive VOC that escapes from building enclosure (use Procedure F.2)

(iv) Liquid/gas method using a BE in which L and F are measured while operating only the affected facility. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.425(4)(B)(iv)

$$CE = (L - Fb) / L$$

where:

- CE = capture efficiency, decimal fraction
- L = mass of liquid VOC input to process (use Procedure L)
- Fb = mass of fugitive VOC that escapes from BE (use Procedure F.2)

(C) The following conditions must be met in measuring capture efficiency:

(i) Any error margin associated with a test protocol may not be incorporated into the results of a capture efficiency test.

(ii) All affected facilities must accomplish the initial capture efficiency testing by July 31, 1992 in Brazoria, Dallas, El Paso, Galveston, Harris, Jefferson, Orange, and Tarrant Counties, and by July 31, 1993 in Chambers, Collin, Denton, Fort Bend, Hardin, Liberty, Montgomery, and Waller Counties, except that all mirror backing coating facilities must accomplish the initial capture efficiency testing by July 31, 1994.

(iii) During an initial pretest meeting, the executive director and the source owner or operator shall identify those operating parameters that must be monitored to ensure that capture efficiency does not change significantly over time. These parameters must be monitored and recorded initially during the capture efficiency testing and thereafter during facility operation. The executive director may require a new capture efficiency test if the operating parameter values change significantly from those recorded during the initial capture efficiency test.

(5) The following additional testing requirements apply to each aerospace vehicle or component coating facility subject to §115.421(10) of this title.

(A) For coatings which are not waterborne (water-reducible), determine the VOC content of each formulation (less water and less exempt solvents) as applied using manufacturer's supplied data or Method 24 of 40 CFR Part 60, Appendix A. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance must be based on the results from the Method 24 analysis. For water-borne (water-reducible) coatings, manufacturer's supplied data alone can be used to determine the VOC content of each formulation.

(B) For aqueous and semiaqueous cleaning solvents, manufacturers' supplied data must be used to determine the water content.

(C) For hand-wipe cleaning solvents, manufacturers' supplied data or standard engineering reference texts or other equivalent methods shall be used to determine the vapor pressure or VOC composite vapor pressure for blended cleaning solvents.

(D) Except for specialty coatings, compliance with the test method requirements of 40 CFR §63.750, (National Emission Standards for Aerospace Manufacturing and Rework Facilities), is considered to represent compliance with the requirements of this section.

(6) Test methods other than those specified in paragraphs (1) - (5) of this section may be used if validated by 40 CFR Part 63, Appendix A, Test Method 301. For

the purposes of this paragraph, substitute "executive director" each place that Test Method 301 references "administrator."

Adopted June 3, 2015

Effective June 25, 2015

§115.426. Monitoring and Recordkeeping Requirements.

The following recordkeeping requirements apply to the owner or operator of each surface coating process in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas and in Gregg, Nueces, and Victoria Counties. Records of non-exempt solvent washings are not required to be kept if the non-exempt solvent is directed into containers that prevent evaporation into the atmosphere.

(1) The owner or operator shall satisfy the following recordkeeping requirements.

(A) A material data sheet must be maintained that documents the volatile organic compound (VOC) content, composition, solids content, solvent density, and other relevant information regarding each coating and solvent available for use in the affected surface coating processes sufficient to determine continuous compliance with applicable control limits.

(B) Records must be maintained of the quantity and type of each coating and solvent consumed during the specified averaging period if any of the coatings, as delivered to the coating application system, exceed the applicable control limits. Such records must be sufficient to calculate the applicable weighted average of VOC for all coatings.

(i) As an alternative to the recordkeeping requirements of this subparagraph, the owner or operator of any vehicle refinishing (body shop) operation subject to §115.421(11) of this title may substitute the recordkeeping requirements specified in §106.436 of this title (relating to Auto Body Refinishing Facility (Previously Standard Exemption 124)) provided that all coatings and solvents meet the emission limits of §115.421(11) of this title. If the owner or operator of a vehicle refinishing (body shop) operation that uses any coating or solvent which exceeds the limits of §115.421(11) of this title, then the owner or operator shall maintain daily records of the quantity and type of each coating and solvent consumed in sufficient detail to calculate the daily weighted average of VOC for all coatings and solvents.

(ii) As an alternative to the recordkeeping requirements of this subparagraph, the owner or operator of any wood parts and products coating operation subject to §115.421(14) of this title may substitute the recordkeeping requirements specified in §106.231 of this title (relating to Manufacturing, Refinishing,

and Restoring Wood Products) provided that all coatings and solvents meet the emission limits of §115.421(14) of this title. If the owner or operator of a wood parts and products coating operation uses any coating or solvent which exceeds the limits of §115.421(14) of this title, then the owner or operator shall maintain daily records of the quantity and type of each coating and solvent consumed in sufficient detail to calculate the daily weighted average of VOC for all coatings and solvents.

(iii) As an alternative to the recordkeeping requirements of this subparagraph, the owner or operator of any surface coating operation that qualifies for exemption under §115.427(3)(C) of this title (relating to Exemptions) shall maintain records of total gallons of coating and solvent used in each month, and total gallons of coating and solvent used in the previous 12 months.

(C) Records shall be maintained of any testing conducted at an affected facility in accordance with the provisions specified in §115.425 of this title (relating to Testing Requirements).

(D) Records required by subparagraphs (A) - (C) of this paragraph must be maintained for at least two years and must be made available upon request by representatives of the executive director, the United States Environmental Protection Agency (EPA), or any local air pollution control agency with jurisdiction.

(2) The owner or operator of any surface coating facility that utilizes a vapor control system approved by the executive director in accordance with §115.423(3) of this title (relating to Alternate Control Requirements) shall:

(A) install and maintain monitors to accurately measure and record operational parameters of all required control devices, as necessary, to ensure the proper functioning of those devices in accordance with design specifications, including:

(i) continuous monitoring of the exhaust gas temperature immediately downstream of direct-flame incinerators and/or the gas temperature immediately upstream and downstream of any catalyst bed;

(ii) the total amount of VOC recovered by carbon adsorption or other solvent recovery systems during a calendar month;

(iii) continuous monitoring of carbon adsorption bed exhaust; and

(iv) appropriate operating parameters for vapor control systems other than those specified in clauses (i) - (iii) of this subparagraph;

(B) maintain records of any testing conducted in accordance with the provisions specified in §115.425(2) of this title; and

(C) maintain all records at the affected facility for at least two years and make such records available to representatives of the executive director, EPA, or any local air pollution control agency with jurisdiction, upon request.

(3) The owner or operator shall maintain, on file, the capture efficiency protocol submitted under §115.425(4) of this title. The owner or operator shall submit all results of the test methods and capture efficiency protocols to the executive director within 60 days of the actual test date. The owner or operator shall maintain records of the capture efficiency operating parameter values on site for a minimum of one year. If any changes are made to capture or control equipment, the owner or operator is required to notify the executive director in writing within 30 days of these changes and a new capture efficiency and/or control device destruction or removal efficiency test may be required.

(4) The owner or operator shall maintain records sufficient to document the applicability of the conditions for exemptions referenced in §115.427 of this title.

(5) The following additional requirements apply to each aerospace vehicle or component coating process subject to §115.421(10) of this title. The owner or operator shall:

(A) for coatings:

(i) maintain a current list of coatings in use with category and VOC content as applied; and

(ii) record coating usage on an annual basis;

(B) for aqueous and semiaqueous hand-wipe cleaning solvents, maintain a list of materials used with corresponding water contents;

(C) for vapor pressure compliant hand-wipe cleaning solvents:

(i) maintain a current list of cleaning solvents in use with their respective vapor pressures or, for blended solvents, VOC composite vapor pressures; and

(ii) maintain a record cleaning solvent usage on an annual basis; and

(D) for cleaning solvents with a vapor pressure greater than 45 millimeters of mercury at 20 degrees Celsius used in exempt hand-wipe cleaning operations:

and (i) maintain a list of exempt hand-wipe cleaning processes;

(ii) maintain a record cleaning solvent usage on an annual basis.

(6) Except for specialty coatings, compliance with the recordkeeping requirements of 40 Code of Federal Regulations §63.752, (National Emission Standards for Aerospace Manufacturing and Rework Facilities), is considered to represent compliance with the requirements of this section.

Adopted June 3, 2015

Effective June 25, 2015

§115.427. Exemptions.

In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas as defined in §115.10 of this title (relating to Definitions) and in Gregg, Nueces, and Victoria Counties, the following exemptions apply.

(1) The following coating operations are exempt from the miscellaneous metal parts and products surface coating emission specifications in §115.421(8) of this title (relating to Emission Specifications):

(A) aerospace vehicles and components;

(B) in the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, vehicle refinishing (body shops); and

(C) in the Beaumont-Port Arthur and Houston-Galveston-Brazoria areas, ships and offshore oil or gas drilling platforms.

(2) The following coating operations are exempt from the factory surface coating of flat wood paneling emission specifications in §115.421(9) of this title:

(A) the manufacture of exterior siding;

(B) tile board; or

(C) particle board used as a furniture component.

(3) In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, the following exemptions apply to surface coating processes, except for vehicle refinishing (body shops) controlled by §115.421(12) of this title. Excluded from the volatile organic compounds (VOC) emission calculations are coatings and solvents used in surface coating activities that are not addressed by the surface coating categories of §115.421(1) - (16) or §115.453 of this title (relating to Control Requirements). For example, architectural coatings (i.e., coatings that are applied in the field to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs) at a property would not be included in the calculations.

(A) Surface coating operations on a property that, when uncontrolled, will emit a combined weight of VOC of less than 3.0 pounds per hour and 15 pounds in any consecutive 24-hour period are exempt from §115.421 of this title and §115.423 of this title (relating to Alternate Control Requirements).

(B) Surface coating operations on a property that, when uncontrolled, will emit a combined weight of VOC of less than 100 pounds in any consecutive 24-hour period are exempt from §115.421 and §115.423 of this title if documentation is provided to and approved by both the executive director and the United States Environmental Protection Agency to demonstrate that necessary coating performance criteria cannot be achieved with coatings that satisfy applicable emission specifications and that control equipment is not technically or economically feasible.

(C) Surface coating operations on a property for which total coating and solvent usage does not exceed 150 gallons in any consecutive 12-month period are exempt from §115.421 and §115.423 of this title.

(D) Mirror backing coating operations located on a property that, when uncontrolled, emit a combined weight of VOC less than 25 tons in one year (based on historical coating and solvent usage) are exempt from this division.

(E) Wood furniture manufacturing facilities that are subject to and are complying with §115.421(15) of this title and §115.422(3) of this title (relating to Control Requirements) are exempt from §115.421(14) of this title. These wood furniture manufacturing facilities must continue to comply with §115.421(14) of this title until these facilities are in compliance with §115.421(15) and §115.422(3) of this title.

(F) Wood furniture manufacturing facilities that, when uncontrolled, emit a combined weight of VOC from wood furniture manufacturing operations less than 25 tons per year (tpy) are exempt from §115.421(15) and §115.422(3) of this title.

(G) In Hardin, Jefferson, and Orange Counties, wood parts and products coating facilities are exempt from §115.421(14) of this title.

(H) In Hardin, Jefferson, and Orange Counties, shipbuilding and ship repair operations that, when uncontrolled, emit a combined weight of VOC from ship and offshore oil or gas drilling platform surface coating operations less than 50 tpy are exempt from §115.421(16) and §115.422(4) of this title.

(I) In Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties, shipbuilding and ship repair operations that, when uncontrolled, emit a combined weight of VOC from ship and offshore oil or gas drilling platform surface coating operations less than 25 tpy are exempt from §115.421(16) and §115.422(4) of this title.

(J) The following activities where cleaning and coating of aerospace vehicles or components may take place are exempt from this division: research and development, quality control, laboratory testing, and electronic parts and assemblies, except for cleaning and coating of completed assemblies.

(4) Vehicle refinishing (body shops) in Hardin, Jefferson, and Orange Counties are exempt from §115.421(12) and §115.422(1) and (2) of this title.

(5) The coating of vehicles at in-house (fleet) vehicle refinishing operations and the coating of vehicles by private individuals are exempt from §115.421(11)(B) and §115.422(1) and (2) of this title. This exemption is not applicable if the coating of a vehicle by a private individual occurs at a commercial operation.

(6) Aerosol coatings (spray paint) are exempt from this division.

(7) In Gregg, Nueces, and Victoria Counties, surface coating operations located at any property that, when uncontrolled, will emit a combined weight of VOC less than 550 pounds (249.5 kilograms) in any continuous 24-hour period are exempt from §115.421 of this title. Excluded from this calculation are coatings and solvents used in surface coating activities that are not addressed by the surface coating categories of §115.421(1) - (10) of this title. For example, architectural coatings (i.e., coatings that are applied in the field to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs) at a property would not be included in the calculation.

(8) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the following surface coating categories that are subject to the requirements of Chapter 115,

Subchapter E, Division 5 of this title (relating to Control Requirements for Surface Coating Processes) are exempt from the requirements in this division:

- (A) large appliance coating;
- (B) metal furniture coating;
- (C) miscellaneous metal parts and products coating;
- (D) each paper coating line with the potential to emit equal to or greater than 25 tpy of VOC from all coatings applied; and
- (E) automobile and light-duty truck manufacturing coating.

(9) In the Dallas-Fort Worth area, except in Wise County, and the Houston-Galveston-Brazoria area, the re-coating of used miscellaneous metal parts and products at a designated on-site maintenance shop that was exempt from §115.421(8) of this title prior to January 1, 2012, or that begins operation on or after January 1, 2012, is exempt from all requirements in this division. The re-coating of used miscellaneous metal parts and products at a designated on-site maintenance shop that was subject to §115.421(8) of this title prior to January 1, 2012, remains subject to this division. For purposes of this exemption, a designated on-site maintenance shop is an area at a site where used miscellaneous metal parts or products are re-coated on a routine basis. Miscellaneous metal parts and products coating processes in Wise County are not subject to this division.

Adopted June 3, 2015

Effective June 25, 2015

§115.429. Counties and Compliance Schedules.

(a) In Brazoria, Chambers, Collin, Dallas, Denton, Ellis, El Paso, Fort Bend, Galveston, Gregg, Hardin, Harris, Jefferson, Johnson, Kaufman, Liberty, Montgomery, Nueces, Orange, Parker, Rockwall, Tarrant, Victoria, and Waller Counties, the compliance date has passed and the owner or operator of a surface coating process shall continue to comply with this division.

(b) In Hardin, Jefferson, and Orange Counties the compliance date has passed and the owner or operator of each shipbuilding and ship repair operation that, when uncontrolled, emits a combined weight of volatile organic compounds from ship and offshore oil or gas drilling platform surface coating operations equal to or greater than 50 tons per year and less than 100 tons per year shall continue to comply with this division.

(c) The owner or operator of a paper surface coating process located in the Dallas-Fort Worth area, except Wise County, and Houston-Galveston-Brazoria area, as defined in §115.10 of this title (relating to Definitions), shall comply with the requirements in §115.422(7) of this title (relating to Control Requirements), no later than March 1, 2013.

(d) The owner or operator of a surface coating process in Wise County shall comply with the requirements in this division as soon as practicable, but no later than January 1, 2017.

(e) The owner or operator of a surface coating process in Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties that becomes subject to this division on or after the applicable compliance date in this section shall comply with the requirements in this division as soon as practicable, but no later than 60 days after becoming subject.

(f) Upon the date the commission publishes notice in the *Texas Register* that the Wise County nonattainment designation for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard is no longer legally effective, the owner or operator of each surface coating process in Wise County is not required to comply with any of the requirements in this division.

Adopted June 3, 2015

Effective June 25, 2015

SUBCHAPTER E: SOLVENT-USING PROCESSES
DIVISION 3: FLEXOGRAPHIC AND ROTOGRAVURE PRINTING
§§115.430 - 115.433, 115.435, 115.436, 115.439
Effective December 29, 2011

§115.430. Applicability and Definitions.

(a) Applicability. The requirements in this division apply to the following flexographic and rotogravure printing processes in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), and in Gregg, Nueces, and Victoria Counties:

- (1) packaging rotogravure printing lines;
- (2) publication rotogravure printing lines;
- (3) flexographic printing lines; and
- (4) flexible package printing lines.

(b) Definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, or 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply in this division unless the context clearly indicates otherwise.

(1) **Cleaning operation**--The cleaning of a press, press parts, or removing dried ink from areas around a press. A cleaning operation does not include cleaning electronic components of a press; cleaning in pre-press (e.g., platemaking) or post-press (e.g., binding) operations; the use of janitorial supplies (e.g., detergents or floor cleaners) to clean areas around a press; and parts washers or cold cleaners.

(2) **Daily weighted average**--The total weight of volatile organic compounds (VOC) emissions from all materials subject to the same VOC content limit in §115.432 of this title (relating to Control Requirements) divided by the total volume or weight of those materials (minus water and exempt solvent), where applicable, or divided by the total volume or weight of solids applied to each printing line per day.

(3) **Flexible package printing**--Flexographic or rotogravure printing on any package or part of a package the shape of which can be readily changed including, but not limited to, bags, pouches, liners, and wraps using paper, plastic, film, aluminum foil, metalized or coated paper or film, or any combination of these materials.

(4) **Flexographic printing**--A method of printing in which the image areas are raised above the non-image areas, and the image carrier is made of an elastomeric material.

(5) **Packaging rotogravure printing**--Any rotogravure printing on paper, paper board, metal foil, plastic film, or any other substrate that is, in subsequent operations, formed into packaging products or labels.

(6) **Publication rotogravure printing**--Any rotogravure printing on paper that is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, or other types of printed materials.

(7) **Rotogravure printing**--The application of words, designs, or pictures to any substrate by means of a roll printing technique that involves a recessed image area. The recessed area is loaded with ink and pressed directly to the substrate for image transfer.

Adopted December 7, 2011

Effective December 29, 2011

§115.431. Exemptions.

(a) In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the following exemptions apply.

(1) In the Beaumont-Port Arthur, Dallas-Fort Worth, and El Paso areas, all rotogravure and flexographic printing lines on a property that, when uncontrolled, have a maximum potential to emit a combined weight of volatile organic compounds (VOC) less than 50 tons per year (based on historical ink and VOC solvent usage, and at maximum production capacity) are exempt from the requirements in §115.432(a) of this title (relating to Control Requirements).

(2) In the Houston-Galveston-Brazoria area, all rotogravure and flexographic printing lines on a property that, when uncontrolled, have a maximum potential to emit a combined weight of VOC less than 25 tons per year (based on historical ink and VOC solvent usage, and at maximum production capacity) are exempt from the requirements in §115.432(a) of this title.

(3) Beginning March 1, 2013, in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, all flexible package printing lines located on a property that have a combined weight of total actual VOC emissions less than 3.0 tons per year from all coatings, as defined in §101.1 of this title (relating to Definitions), and all associated cleaning operations are exempt from the requirements in §115.432(c) and (d) of this title.

(4) Beginning March 1, 2013, in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, each flexible package printing line that, when uncontrolled, has a maximum potential to emit total VOC emissions less than 25 tons per year from all coatings is exempt from the requirements in §115.432(c) of this title.

(b) In Gregg, Nueces, and Victoria Counties, all rotogravure and flexographic printing lines on a property that, when uncontrolled, emit a combined weight of VOC less than 100 tons per year (based on historical ink and VOC solvent usage) are exempt from the requirements in §115.432(b) of this title.

Adopted December 7, 2011

Effective December 29, 2011

§115.432. Control Requirements.

(a) In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the following control requirements apply. Beginning March 1, 2013, this subsection no longer applies to flexible package printing lines in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas that are required to comply with the requirements in subsection (c) of this section.

(1) The owner or operator shall limit the volatile organic compounds (VOC) emissions from solvent-containing ink used on each packaging rotogravure, publication rotogravure, flexible package, and flexographic printing line by using one of the following options.

(A) The owner or operator shall apply low solvent ink with a volatile fraction containing 25% by volume or less of VOC solvent and 75% by volume or more of water and exempt solvent.

(B) The owner or operator shall apply high solids solvent-borne ink containing 60% by volume or more of nonvolatile material (minus water and exempt solvent).

(C) The owner or operator shall operate a vapor control system to reduce the VOC emissions from an effective capture system by at least 90% by weight. The design and operation of the capture system for each printing line must be consistent with good engineering practice and must achieve, as demonstrated to the satisfaction of the executive director, upon request, of at least the following weight percentages:

(i) 75% for a publication rotogravure process;

(ii) 65% for a packaging rotogravure process;

(iii) 60% for a flexographic printing process; or

(iv) for a flexible package printing process, the overall control efficiency in clause (ii) or (iii) of this subparagraph, depending on the type of press used.

(2) A flexographic and rotogravure printing line that becomes subject to paragraph (1) of this subsection by exceeding the exemption limits in §115.431(a) of this title (relating to Exemptions) is subject to the provisions of this subsection even if throughput or emissions later fall below exemption limits unless emissions are maintained at or below the controlled emissions level achieved while complying with paragraph (1) of this subsection and one of the following conditions is met.

(A) The project that caused the throughput or emission rate to fall below the exemption limits in §115.431(a) of this title must be authorized by a permit, permit amendment, standard permit, or permit by rule required by Chapter 116 of this title (relating to Control of Air Pollution by Permit for New Construction or Modification) or Chapter 106 of this title (relating to Permits by Rule). If a permit by rule is available for the project, the owner or operator shall continue to comply with paragraph (1) of this subsection for 30 days after the filing of documentation of compliance with that permit by rule.

(B) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.

(3) Any capture efficiency testing of the capture system must be conducted in accordance with §115.435(a) of this title (relating to Testing Requirements).

(b) In Gregg, Nueces, and Victoria Counties, the owner or operator shall limit the VOC emissions from solvent-containing ink used on each packaging rotogravure, publication rotogravure, flexible package, and flexographic printing line by using one of the following options.

(1) The owner or operator shall apply low solvent ink with a volatile fraction containing 25% by volume or less of VOC solvent and 75% by volume or more of water and exempt solvent.

(2) The owner or operator shall apply high solids solvent-borne ink containing 60% by volume or more of nonvolatile material (minus water and exempt solvent).

(3) The owner or operator shall operate a vapor control system to reduce the VOC emissions from an effective capture system by at least 90% by weight. The design and operation of the capture system for each printing line must be consistent with good engineering practice and must achieve an overall control efficiency, as demonstrated to the satisfaction of the executive director, upon request, of at least the following weight percentages:

(A) 75% for a publication rotogravure process;

(B) 65% for a packaging rotogravure process;

(C) 60% for a flexographic printing process; or

(D) for a flexible package printing process, the overall control efficiency in subparagraph (B) or (C) of this paragraph, depending on the type of press used.

(c) Beginning March 1, 2013, in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the following control requirements apply to each flexible package printing line.

(1) The owner or operator shall limit the VOC emissions from coatings, as defined in §101.1 of this title (relating to Definitions), applied on each flexible package printing line by using one of the following options. These limits are based on the daily weighted average, as defined in §115.430(b) of this title (relating to Applicability and Definitions).

(A) The owner or operator shall limit the VOC emissions from the coatings to 0.80 pound of VOC per pound of solids applied. The VOC emission limit can be met through the use of low-VOC coatings or a combination of coatings and the operation of a vapor control system.

(B) The owner or operator shall limit the VOC emissions from the coatings to 0.16 pound of VOC per pound of coating applied. The VOC emission limit can be met through the use of low-VOC coatings or a combination of coatings and the operation of a vapor control system.

(C) The owner or operator shall operate a vapor control system that achieves an overall control efficiency of at least 80% by weight.

(2) A flexographic and rotogravure printing line that becomes subject to paragraph (1) of this subsection by exceeding the exemption limits in §115.431(a) of this title is subject to paragraph (1) of this subsection even if throughput or emissions later

fall below exemption limits unless emissions are maintained at or below the controlled emissions level achieved while complying with paragraph (1) of this subsection and one of the following conditions is met.

(A) The project that caused the throughput or emission rate to fall below the exemption limits in §115.431(a) of this title must be authorized by a permit, permit amendment, standard permit, or permit by rule required by Chapter 116 of this title or Chapter 106 of this title. If a permit by rule is available for the project, the owner or operator shall continue to comply with paragraph (1) of this subsection for 30 days after the filing of documentation of compliance with that permit by rule.

(B) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.

(3) An owner or operator applying coatings in combination with a vapor control system to meet the VOC emission limits in paragraph (1)(A) or (B) of this subsection shall use the following equation to determine the minimum overall control efficiency necessary to demonstrate equivalency. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.435(a) of this title.

Figure: 30 TAC §115.432(c)(3)

$$E = \frac{(VOC - S)}{VOC}$$

Where:

E = The required overall control efficiency, decimal fraction.

VOC = The volatile organic compounds (VOC) content of the coatings applied on the printing line expressed in units consistent with the VOC limit in paragraph (1)(A) or (B) of this subsection. The owner or operator may choose to use either a daily weighted average or the maximum VOC content.

S = The applicable VOC limit in paragraph (1)(A) or (B) of this subsection. The units for this variable and the VOC variable must be the same.

(d) The owner or operator of a flexible package printing process shall implement the following work practices for cleaning materials:

(1) keep all cleaning solvents and used shop towels in closed containers;
and

(2) convey cleaning solvents from one location to another in closed containers or pipes.

Adopted December 7, 2011

Effective December 29, 2011

§115.433. Alternate Control Requirements.

For the owner or operator of a flexographic or rotogravure printing line subject to this division, alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

Adopted December 7, 2011

Effective December 29, 2011

§115.435. Testing Requirements.

(a) In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), compliance with the control requirements in §115.432 of this title (relating to Control Requirements) must be determined by applying the following test methods, as appropriate:

(1) Methods 1 - 4 (40 Code of Federal Regulations (CFR) Part 60, Appendix A) for determining flow rates, as necessary;

(2) Method 24 (40 CFR Part 60, Appendix A) for determining the volatile organic compounds (VOC) content and density of printing inks and related coatings;

(3) Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(4) Methods 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(5) the United States Environmental Protection Agency (EPA) guidelines series document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings," EPA-450/3-84-019, as in effect December 1984;

(6) additional performance test procedures described in 40 CFR §60.444 (as amended through October 18, 1983 (48 FR 48375));

(7) minor modifications to these methods and procedures approved by the executive director; and

(8) for the capture efficiency, the applicable procedures outlined in 40 CFR §52.741, Subpart O, Appendix B (as amended through October 21, 1996 (61 FR 54559)). These procedures are: Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure; Procedure L - VOC Input; Procedure G.2 - Captured VOC Emissions (Dilution Technique); Procedure F.1 - Fugitive VOC Emissions from Temporary Enclosures; Procedure F.2 - Fugitive VOC Emissions from Building Enclosures.

(A) The following exemptions apply to capture efficiency testing requirements.

(i) If a source installs a permanent total enclosure that meets the specifications of Procedure T and that directs all VOC to a control device, then the capture efficiency is assumed to be 100%, and the source is exempt from capture efficiency testing requirements. This does not exempt the source from performance of any control device efficiency testing that may be required. In addition, a source must demonstrate all criteria for a permanent total enclosure are met during testing for control efficiency.

(ii) If a source uses a control device designed to collect and recover VOC (e.g., carbon adsorption system), an explicit measurement of capture efficiency is not necessary if the following conditions are met. The overall control of the system can be determined by directly comparing the input liquid VOC to the recovered liquid VOC. The general procedure for use in this situation is given in 40 CFR §60.433 (as amended through October 17, 2000 (65 FR 61761)) with the following additional restrictions.

(I) The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average. This verification must be done within 72 hours following each 24-hour period of the 30-day period specified in 40 CFR §60.433 (as amended through October 17, 2000 (65 FR 61761)).

(II) The solvent recovery system (i.e., capture and control system) must be dedicated to a single process line (e.g., one process line venting to a carbon adsorption system); or if the solvent recovery system controls multiple process lines, the source must be able to demonstrate that the overall control (i.e., the total recovered solvent VOC divided by the sum of liquid VOC input to all process lines

venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.

(B) The capture efficiency must be calculated using one of the following four protocols referenced. The owner or operator of any affected source shall use one of these protocols, unless a suitable alternative protocol is approved by the executive director and the EPA.

(i) Gas/gas method using temporary total enclosure (TTE). The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The following equation must be used to determine the capture efficiency for this protocol.

Figure: 30 TAC §115.435(a)(8)(B)(i)

$$CE = \frac{G_w}{(G_w + F_w)}$$

Where:

CE = The capture efficiency, decimal fraction.

G_w = The mass of volatile organic compounds (VOC) captured and delivered to control device using a temporary total enclosure (TTE) (use Procedure G.2).

F_w = The mass of fugitive VOC that escapes from a TTE (use Procedure F.1).

(ii) Liquid/gas method using TTE. The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The following equation must be used to determine the capture efficiency for this protocol.

Figure: 30 TAC §115.435(a)(8)(B)(ii)

$$CE = \frac{(L - F)}{L}$$

Where:

CE = The capture efficiency, decimal fraction.

L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).

F = The mass of fugitive VOC that escapes from a temporary total enclosure (TTE) (use Procedure F.1).

(iii) Gas/gas method using the building or room enclosure (BE) in which the affected source is located and in which the mass of VOC captured and

delivered to a control device and the mass of fugitive VOC that escapes from building enclosure are measured while operating only the affected facility. All fans and blowers in the BE must be operating as they would under normal production. The following equation must be used to determine the capture efficiency for this protocol.

Figure: 30 TAC §115.435(a)(8)(B)(iii)

$$CE = \frac{G}{(G + F_B)}$$

Where:

CE = The capture efficiency, decimal fraction.

G = The mass of volatile organic compounds (VOC) captured and delivered to a control device (use Procedure G.2).

F_B = The mass of fugitive VOC that escapes from building enclosure (use Procedure F.2).

(iv) Liquid/gas method using a BE in which the mass of liquid VOC input to process and the mass of fugitive VOC that escapes from BE are measured while operating only the affected facility. All fans and blowers in the BE must be operated as they would under normal production. The following equation must be used to determine the capture efficiency for this protocol.

Figure: 30 TAC §115.435(a)(8)(B)(iv)

$$CE = \frac{L}{F_B - L}$$

Where:

CE = The capture efficiency, decimal fraction.

L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).

F_B = The mass of fugitive VOC that escapes from a building or room enclosure (use Procedure F.2).

(C) The operating parameters selected for monitoring of the capture system for compliance with the requirements in §115.436(a) of this title (relating to Monitoring and Recordkeeping Requirements) must be monitored and recorded during the initial capture efficiency testing and thereafter during facility operation. The executive director may require a new capture efficiency test if the operating parameter values change significantly from those recorded during the initial capture efficiency test.

(b) In Gregg, Nueces, and Victoria Counties, compliance with the requirements in this division must be determined by applying the following test methods, as appropriate:

(1) Methods 1 - 4 (40 CFR Part 60, Appendix A) for determining flow rates, as necessary;

(2) Method 24 (40 CFR Part 60, Appendix A) for determining the VOC content and density of printing inks and related coatings;

(3) Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(4) Methods 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(5) the EPA guidelines series document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings," EPA-450/3-84-019, as in effect December 1984;

(6) additional performance test procedures described in 40 CFR §60.444 (as amended through October 18, 1983 (48 FR 48375)); or

(7) minor modifications to these test methods and procedures approved by the executive director.

(c) Methods other than those specified in subsections (a)(1) - (6) and (b)(1) - (6) of this section may be used if approved by the executive director and validated using Method 301 (40 CFR Part 63, Appendix A). For the purposes of this subsection, substitute "executive director" each place that Method 301 references "administrator."

Adopted December 7, 2011

Effective December 29, 2011

§115.436. Monitoring and Recordkeeping Requirements.

(a) In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the owner or operator of a rotogravure or flexographic printing line subject to this division shall:

(1) maintain records of the volatile organic compounds (VOC) content of all inks as applied to the substrate. Additionally, records of the quantity of each ink and

solvent used must be maintained. The composition of inks may be determined by the methods referenced in §115.435(a) of this title (relating to Testing Requirements) or by examining the manufacturer's formulation data and the amount of dilution solvent added to adjust the viscosity of inks prior to application to the substrate;

(2) maintain daily records of the quantity of each ink and solvent used at a facility subject to the requirements of an alternate means of control approved by the executive director in accordance with §115.433 of this title (relating to Alternate Control Requirements) that allows the application of inks exceeding the applicable control limits. Such records must be sufficient to demonstrate compliance with the applicable emission limitation on a daily weighted average;

(3) install and maintain monitors to continuously measure and record operational parameters of any control device installed to meet applicable control requirements. Such records must be sufficient to demonstrate proper functioning of those devices to design specifications, including:

(A) the exhaust gas temperature of direct-flame incinerators or gas temperature immediately upstream and downstream of any catalyst bed;

(B) the total amount of VOC recovered by a carbon adsorption or other solvent recovery system during a calendar month;

(C) the exhaust gas VOC concentration of any carbon adsorption system, as defined in §115.10 of this title, to determine if breakthrough has occurred; and

(D) the dates and reasons for any maintenance and repair of the required control devices and the estimated quantity and duration of VOC emissions during such activities;

(4) maintain the results of any testing conducted at an affected facility in accordance with the provisions specified in §115.435(a) of this title;

(5) maintain all records at the affected facility for at least two years and make such records available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency (EPA), or any local air pollution agency with jurisdiction; and

(6) maintain on file the capture efficiency protocol submitted under §115.435(a)(8) of this title. The owner or operator shall submit all results of the test methods and capture efficiency protocols to the executive director within 60 days of the actual test date. The source owner or operator shall maintain records of the capture

efficiency operating parameter values on-site for a minimum of one year. If any changes are made to capture or control equipment, the owner or operator is required to notify the executive director in writing within 30 days of these changes, and a new capture efficiency or control device destruction or removal efficiency test may be required.

(b) In Gregg, Nueces, and Victoria Counties, the owner or operator of any rotogravure or flexographic printing line shall:

(1) maintain records of the VOC content of all inks as applied to the substrate. Additionally, records of the quantity of each ink and solvent used must be maintained. The composition of inks may be determined by the methods referenced in §115.435(b) of this title or by examining the manufacturer's formulation data and the amount of dilution solvent added to adjust the viscosity of inks prior to application to the substrate;

(2) maintain daily records of the quantity of each ink and solvent used at a facility subject to the requirements of an alternate means of control approved by the executive director in accordance with §115.433 of this title that allows the application of inks exceeding the applicable control limits. Such records must be sufficient to demonstrate compliance with the applicable emission limitation on a daily weighted average;

(3) install and maintain monitors to continuously measure and record operational parameters of any control device installed to meet applicable control requirements. Such records must be sufficient to demonstrate proper functioning of those devices to design specifications, including:

(A) the exhaust gas temperature of direct-flame incinerators or the gas temperature immediately upstream and downstream of any catalyst bed;

(B) the total amount of VOC recovered by a carbon adsorption or other solvent recovery system during a calendar month;

(C) in Victoria County, the exhaust gas VOC concentration of any carbon adsorption system, as defined in §115.10 of this title, to determine if breakthrough has occurred; and

(D) the dates and reasons for any maintenance and repair of the required control devices and the estimated quantity and duration of VOC emissions during such activities;

(4) maintain the results of any testing conducted at an affected facility in accordance with the provisions specified in §115.435(b) of this title; and

(5) maintain all records at the affected facility for at least two years and make such records available upon request to authorized representatives of the executive director, the EPA, or any local air pollution agency with jurisdiction.

(c) Beginning March 1, 2013, in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the owner or operator of a flexible package printing line subject to this division shall comply with the following monitoring and recordkeeping requirements.

(1) The owner or operator shall maintain records of the VOC content of all coatings, as defined in §101.1 of this title (relating to Definitions), as applied to the substrate. The composition of coatings may be determined by the methods referenced in §115.435(a) of this title or by examining the manufacturer's formulation data and the amount of dilution solvent added to adjust the viscosity of coatings prior to application to the substrate. Additionally, records of the quantity of each coating used must be maintained.

(2) For flexible package printing lines subject to the control requirements in §115.432(c) of this title (relating to Control Requirements), the owner or operator shall maintain records of the quantity and type of each coating and solvent consumed if any of the coatings, as applied, exceed the applicable VOC content or emission limits in §115.432(c) of this title. Records must be sufficient to demonstrate compliance with the applicable VOC content or emission limit on a daily weighted average.

(3) For flexible package printing lines subject to the control requirements in §115.432(a) of this title, the owner or operator shall maintain daily records of the quantity of each ink and solvent used at a facility subject to the requirements of an alternate means of control approved by the executive director in accordance with §115.433 of this title that allows the application of inks exceeding the applicable control limits. Such records must be sufficient to demonstrate compliance with the applicable emission limitation in §115.432(a) of this title on a daily weighted average.

(4) The owner or operator shall install and maintain monitors to continuously measure and record operational parameters of any control device installed to meet applicable control requirements in §115.432(a) or (c) of this title. Such records must be sufficient to demonstrate proper functioning of those devices to design specifications, including:

(A) the exhaust gas temperature of direct-flame incinerators or gas temperature immediately upstream and downstream of any catalyst bed;

(B) the total amount of VOC recovered by a carbon adsorption or other solvent recovery system during a calendar month;

(C) the exhaust gas VOC concentration of any carbon adsorption system, as defined in §115.10 of this title, to determine if breakthrough has occurred; and

(D) the dates and reasons for any maintenance and repair of the required control devices and the estimated quantity and duration of VOC emissions during such activities.

(5) The owner or operator shall maintain the results of any testing conducted at an affected facility in accordance with the provisions specified in §115.435(a) of this title.

(6) The owner or operator shall maintain all records at the affected facility for at least two years and make such records available upon request to authorized representatives of the executive director, the EPA, or any local air pollution agency with jurisdiction.

(7) The owner or operator shall maintain on file the capture efficiency protocol submitted under §115.435(a)(8) of this title. The owner or operator shall submit all results of the test methods and capture efficiency protocols to the executive director within 60 days of the actual test date. The source owner or operator shall maintain records of the capture efficiency operating parameter values on-site for a minimum of one year. If any changes are made to capture or control equipment, the owner or operator is required to notify the executive director in writing within 30 days of these changes, and a new capture efficiency or control device destruction or removal efficiency test may be required.

Adopted December 7, 2011

Effective December 29, 2011

§115.439. Counties and Compliance Schedules.

(a) Except as specified in subsection (c) and (d) of this section, for the owner or operator of a flexographic or rotogravure printing line subject to this division in Brazoria, Chambers, Collin, Dallas, Denton, El Paso, Fort Bend, Galveston, Gregg, Hardin, Harris, Jefferson, Liberty, Montgomery, Nueces, Orange, Tarrant, Victoria, and Waller Counties the compliance date has already passed and the owner or operator shall continue to comply with applicable sections of this division.

(b) Except as specified in subsection (c) and (d) of this section, in Ellis, Johnson, Kaufman, Parker, and Rockwall Counties the compliance date has already passed and the owner or operator of a flexographic or rotogravure printing line subject to this division shall continue to comply with this division.

(c) The owner or operator of a flexible package printing line in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), shall comply with the requirements in §115.432(c) and (d) and §115.436(c) of this title (relating to Control Requirements; and Monitoring and Recordkeeping Requirements) no later than March 1, 2013. Testing required by §115.435 of this title (relating to Testing Requirements) to demonstrate compliance with the requirements of §115.432(c) of this title must be completed, and the results submitted to the executive director no later than March 1, 2013.

(d) The owner or operator of a flexible package printing line in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas that becomes subject to the requirements of this division after March 1, 2013, shall comply with the requirements in this division no later than 60 days after becoming subject.

Adopted December 7, 2011

Effective December 29, 2011

SUBCHAPTER E: SOLVENT-USING PROCESSES
DIVISION 4: OFFSET LITHOGRAPHIC PRINTING
§§115.440 - 115.443, 115.445, 115.446, 115.449
Effective June 25, 2015

§115.440. Applicability and Definitions.

(a) Applicability. The provisions in this division apply to offset lithographic printing lines located in the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions).

(b) Definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, and 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply unless the context clearly indicates otherwise.

(1) Alcohol--Any of the hydroxyl-containing organic compounds with a molecular weight equal to or less than 74.12, which includes methanol, ethanol, propanol, and butanol.

(2) Alcohol substitutes--Nonalcohol additives that contain volatile organic compounds and are used in the fountain solution to reduce the surface tension of water or prevent ink piling.

(3) Batch--A supply of fountain solution or cleaning solution that is prepared and used without alteration until completely used or removed from the printing process.

(4) Cleaning solution--Liquids used to remove ink and debris from the operating surfaces of the printing press and its parts.

(5) Fountain solution--A mixture of water, nonvolatile printing chemicals, and a liquid additive that reduces the surface tension of the water so that it spreads easily across the printing plate surface. The fountain solution wets the non-image areas so that the ink is maintained within the image areas.

(6) Heatset--Any operation where heat is required to evaporate ink oil from the printing ink.

(7) Lithography--A plane-o-graphic printing process where the image and non-image areas are on the same plane of the printing plate. The image and non-image

areas are chemically differentiated so the image area is oil receptive and the non-image area is water receptive.

(8) Major printing source--All offset lithographic printing lines located on a property with combined uncontrolled emissions of volatile organic compounds (VOC) greater than or equal to:

(A) 50 tons of VOC per calendar year in the Dallas-Fort Worth area as defined in §115.10 of this title (relating to Definitions), except Wise County;

(B) 25 tons of VOC per calendar year in the Houston-Galveston-Brazoria area, as defined in §115.10 of this title; or

(C) 100 tons of VOC per calendar year in Wise County.

(9) Minor printing source--All offset lithographic printing lines located on a property with combined uncontrolled emissions of volatile organic compounds (VOC) less than:

(A) 50 tons of VOC per calendar year in the Dallas-Fort Worth area, defined in §115.10 of this title (relating to Definitions), except Wise County;

(B) 25 tons of VOC per calendar year in the Houston-Galveston-Brazoria area, as defined in §115.10 of this title; or

(C) 100 tons of VOC per calendar year in Wise County.

(10) Non-heatset--Any operation where the printing inks are set without the use of heat. For the purposes of this division, ultraviolet-cured and electron beam-cured inks are considered non-heatset.

(11) Offset lithography--A printing process that transfers the ink film from the lithographic plate to an intermediary surface (blanket) that, in turn, transfers the ink film to the substrate.

(12) Volatile organic compound (VOC) composite partial pressure--The sum of the partial pressures of the compounds that meet the definition of VOC in §101.1 of this title (relating to Definitions). The VOC composite partial pressure is calculated as follows.

Figure: 30 TAC §115.440(b)(12)

$$PP_c = \frac{\sum_{i=1}^n \frac{W_i}{MW_i} \times VP_i}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

PP_c = the VOC composite partial pressure of a solution at 20 degrees Celsius, millimeters of mercury (mm Hg);

W_i = the weight of VOC i, grams (g);

MW_i = the molecular weight of VOC i, g/g-mole;

VP_i = the vapor pressure of VOC i at 20 degrees Celsius, mm Hg;

W_w = the weight of water, g;

MW_w = the molecular weight of water, g/g-mole;

W_e = the weight of non-water exempt compound e, g; and

MW_e = the molecular weight of non-water exempt compound e, g/g-mole.

Adopted June 3, 2015

Effective June 25, 2015

§115.441. Exemptions.

(a) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the owner or operator of all offset lithographic printing lines located on a property with combined emissions of volatile organic compounds less than 3.0 tons per calendar year when uncontrolled, is exempt from the requirements in this division except as specified in §115.446 of this title (relating to Monitoring and Recordkeeping Requirements).

(b) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the owner or operator of a minor printing source, as defined in §115.440 of this title (relating to

Applicability and Definitions) and in Wise County the owner or operator of a minor printing source or a major printing source, as defined in §115.440 of this title:

(1) may exempt up to 110 gallons of cleaning solution per calendar year from the content limits in §115.442(c)(1) of this title (relating to Control Requirements);

(2) may exempt any press with a total fountain solution reservoir less than 1.0 gallons from the fountain solution content limits in §115.442(c)(2) - (4) of this title; and

(3) may exempt any sheet-fed press with a maximum sheet size of 11.0 inches by 17.0 inches or less from the fountain solution content limits in §115.442(c)(2) of this title.

Adopted June 3, 2015

Effective June 25, 2015

§115.442. Control Requirements.

(a) In the El Paso area as defined in §115.10 of this title (relating to Definitions), the following control requirements apply.

(1) The owner or operator of an offset lithographic printing line that uses solvent-containing ink shall limit emissions of volatile organic compounds (VOC) as follows.

(A) The owner or operator of a heatset web offset lithographic printing press that uses alcohol in the fountain solution shall maintain total fountain solution alcohol to 5.0% or less (by volume). Alternatively, a standard of 10.0% or less (by volume) alcohol may be used if the fountain solution containing alcohol is refrigerated to less than 60 degrees Fahrenheit (15.5 degrees Celsius).

(B) The owner or operator of a non-heatset web offset lithographic printing press that prints newspaper and that uses alcohol in the fountain solution shall eliminate the use of alcohol in the fountain solution. Nonalcohol additives or alcohol substitutes can be used to accomplish the total elimination of alcohol use.

(C) The owner or operator of a non-heatset web offset lithographic printing press that does not print newspaper and that uses alcohol in the fountain solution shall maintain the use of alcohol at 5.0% or less (by volume). Alternatively, a standard of 10.0% or less (by volume) alcohol may be used if the fountain solution is refrigerated to less than 60 degrees Fahrenheit (15.5 degrees Celsius).

(D) The owner or operator of a sheet-fed offset lithographic printing press shall maintain the use of alcohol at 10.0% or less (by volume). Alternatively, a standard of 12.0% or less (by volume) alcohol may be used if the fountain solution is refrigerated to less than 60 degrees Fahrenheit (15.5 degrees Celsius).

(E) The owner or operator of any type of offset lithographic printing press shall be considered in compliance with the fountain solution limitations of this paragraph if the only VOC in the fountain solution are nonalcohol additives or alcohol substitutes, so that the concentration of VOC in the fountain solution is 3.0% or less (by weight). The fountain solution must not contain any isopropyl alcohol.

(F) The owner or operator of an offset lithographic printing press shall reduce VOC emissions from cleaning solutions by one of the following methods:

(i) using cleaning solutions with a VOC content of 50% or less (by volume, as used);

(ii) using cleaning solutions with a VOC content of 70% or less (by volume, as used) and incorporating a towel handling program that ensures that all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal/cleaning service; or

(iii) using cleaning solutions with a VOC composite partial vapor pressure less than or equal to 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius).

(2) The owner or operator of a heatset offset lithographic printing press shall operate a control device to reduce VOC emissions from the press dryer exhaust vent by 90% by weight or maintain a maximum dryer exhaust outlet VOC concentration of 20 parts per million by volume (ppmv), whichever is less stringent when the press is in operation. The dryer air pressure must be lower than the pressroom air pressure at all times when the press is operating to ensure the dryer has a capture efficiency of 100%.

(b) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the following control requirements apply to the owner or operator of a major printing source, as defined in §115.440 of this title (relating to Applicability and Definitions), in accordance with the appropriate compliance date specified in §115.449 of this title (relating to Compliance Schedules).

(1) The owner or operator of an offset lithographic printing press shall limit the VOC content of the cleaning solution, as applied, to:

(A) 50.0% VOC or less by volume;

(B) 70.0% VOC or less by volume if the facility has a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service;
or

(C) a VOC composite partial vapor pressure less than or equal to 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius) if the facility has a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service.

(2) The owner or operator of a sheet-fed offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to:

(A) 5.0% alcohol or less by weight;

(B) 8.5% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius); or

(C) 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(3) The owner or operator of a non-heatset web offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(4) The owner or operator of a heatset web offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to:

(A) 1.6% alcohol or less by weight;

(B) 3.0% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius); or

(C) 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(5) The owner or operator of a heatset offset lithographic printing press shall operate a control device to reduce VOC emissions from the press dryer exhaust vent by at least 90% by weight or maintain a maximum dryer exhaust outlet VOC concentration of 20 ppmv or less, whichever is less stringent when the press is in

operation. The dryer air pressure must be lower than the pressroom air pressure at all times when the press is operating to ensure the dryer has a capture efficiency of 100%.

(c) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the following control requirements apply to the owner or operator of a minor printing source, as defined in §115.440 of this title, in accordance with the appropriate compliance date specified in §115.449.

(1) The owner or operator of an offset lithographic printing press shall limit the VOC content of the cleaning solution, as applied, to:

(A) 50.0% VOC or less by volume;

(B) 70.0% VOC or less by volume if the facility has a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service; or

(C) a VOC composite partial vapor pressure less than or equal to 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius) if the facility has a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service.

(2) The owner or operator of a sheet-fed offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to:

(A) 5.0% alcohol or less by weight;

(B) 8.5% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius); or

(C) 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(3) The owner or operator of a non-heatset web offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(4) The owner or operator of a heatset web offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to:

(A) 1.6% alcohol or less by weight;

(B) 3.0% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius); or

(C) 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

Adopted June 3, 2015

Effective June 25, 2015

§115.443. Alternate Control Requirements.

In the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division (relating to Offset Lithographic Printing) may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

Adopted March 10, 2010

Effective April 1, 2010

§115.445. Approved Test Methods.

In the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), compliance with the requirements in this division (relating to Offset Lithographic Printing) must be determined by applying the following test methods, as appropriate:

(1) Test Methods 1-4 (40 Code of Federal Regulations (CFR) Part 60, Appendix A) for determining flow rates;

(2) Test Method 24 (40 CFR Part 60, Appendix A) for determining the volatile organic compound content and density of printing inks and related coatings;

(3) Test Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon with the modification that the probe and filter should be heated to the gas stream temperature, typically closer to 350 degrees Fahrenheit (177 degrees Celsius) to prevent condensation;

(4) Test Methods 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(5) the United States Environmental Protection Agency guidelines series document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings" (EPA-450/3-84-019, effective December 1984);

(6) additional performance test procedures described in 40 CFR §60.444 (effective October 18, 1983);

(7) minor modifications to these test methods if approved by the executive director; and

(8) test methods other than those specified in this section if validated by 40 CFR Part 63, Appendix A, Test Method 301 (effective December 29, 1992) and approved by the executive director.

Adopted March 10, 2010

Effective April 1, 2010

§115.446. Monitoring and Recordkeeping Requirements.

(a) In the El Paso area as defined in §115.10 of this title (relating to Definitions), the following monitoring and recordkeeping requirements apply.

(1) The owner or operator of a heatset offset lithographic printing press shall install, calibrate, maintain, and operate a temperature monitoring device, according to the manufacturer's instructions, at the outlet of the control device. The temperature monitoring device must be equipped with a continuous recorder and must have an accuracy of ± 0.5 degrees Fahrenheit, or alternatively $\pm 1.0\%$ of the temperature being monitored.

(2) The owner or operator of any offset lithographic printing press shall install and maintain monitors to continuously measure and record operational parameters of any emission control device installed to meet applicable control requirements on a regular basis. Such records must be sufficient to demonstrate proper functioning of those devices to design specifications, including:

(A) the exhaust gas temperature of direct-flame incinerators or the gas temperature immediately upstream and downstream of any catalyst bed;

(B) the total amount of volatile organic compounds (VOC) recovered by a carbon adsorption or other solvent recovery system during a calendar month; and

(C) the exhaust gas VOC concentration of any carbon adsorption system, as defined in §115.10 of this title, to determine if breakthrough has occurred.

(3) The dryer pressure must be maintained lower than the press room air pressure such that air flows into the dryer at all times when the offset lithographic printing press is operating. A 100% emissions capture efficiency for the dryer must be demonstrated using an air flow direction measuring device.

(4) The owner or operator of any offset lithographic printing press shall monitor fountain solution alcohol concentration with a refractometer or a hydrometer that is corrected for temperature at least once per eight-hour shift or once per batch, whichever is longer. The refractometer or hydrometer must have a visual, analog, or digital readout with an accuracy of 0.5% VOC. A standard solution must be used to calibrate the refractometer for the type of alcohol used in the fountain. The VOC content of the fountain solution may be monitored with a conductivity meter if it is determined that a refractometer or hydrometer cannot be used for the type of VOC in the fountain solution. The conductivity meter reading for the fountain solution must be referenced to the conductivity of the incoming water.

(5) The owner or operator of any offset lithographic printing press using refrigeration equipment on the fountain solution in order to comply with §115.442(a)(1)(A), (C), or (D) of this title (relating to Control Requirements) shall monitor the temperature of the fountain solution reservoir at least once per hour. Alternatively, the owner or operator of any offset lithographic printing press using refrigeration equipment on the fountain solution shall install, maintain, and continuously operate a temperature monitor of the fountain solution reservoir. The temperature monitor must be attached to a continuous recording device such as a strip chart, recorder, or computer.

(6) For any offset lithographic printing press with automatic cleaning equipment, flow meters are required to monitor water and cleaning solution flow rates. The flow meters must be calibrated so that the VOC content of the mixed solution complies with the requirements of §115.442(a)(1) of this title.

(7) The owner or operator of any offset lithographic printing press shall maintain the results of any testing conducted at an affected facility in accordance with the provisions specified in §115.445 of this title (relating to Approved Test Methods).

(8) The owner or operator of any offset lithographic printing press shall maintain all records at the affected facility for at least two years and make such records available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution agency with jurisdiction.

(b) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the following monitoring and recordkeeping requirements apply in accordance with the appropriate compliance date specified in §115.449 of this title (relating to Compliance Schedules).

(1) The owner or operator of an offset lithographic printing press claiming an exemption in §115.441 of this title (relating to Exemptions) shall maintain records sufficient to demonstrate continuous compliance with the applicable exemption criteria. For example, maintaining records of ink, cleaning solvent, and fountain solution usage may be sufficient to demonstrate compliance with the exemption provided in §115.441(a) of this title for sources located on a property with combined VOC emissions less than 3.0 tons per year when uncontrolled.

(2) The owner or operator of an offset lithographic printing press shall use one of the following options to demonstrate compliance with the cleaning solution content limits in §115.442(b)(1) or (c)(1) of this title.

(A) Flow meters must be used to monitor the water and cleaning solution flow rates on a press with automatic cleaning equipment. The flow meters must be installed, maintained, and operated according to the manufacturer's instructions. The flow meters must be calibrated so that the VOC concentration of the cleaning solution complies with the requirements of §115.442(b)(1) or (c)(1) of this title. Records must be sufficient to demonstrate continuous compliance with the cleaning solution content limits in §115.442(b)(1) or (c)(1) of this title.

(B) The VOC concentration of each batch of cleaning solution must be determined using analytical data derived from the material safety data sheet (MSDS) or equivalent information from the supplier that was derived using the approved test methods in §115.445 of this title. The concentration of all VOC used to prepare the batch and, if diluted prior to use, the proportions that each of these materials is used must be recorded for each batch of cleaning solution. Records must be sufficient to demonstrate continuous compliance with the cleaning solution content limits in §115.442(b)(1) or (c)(1) of this title.

(3) The owner or operator of an offset lithographic printing press shall use one of the following options to demonstrate compliance with the fountain solution content limits in §115.442(b)(2) - (4) or (c)(2) - (4) of this title.

(A) The VOC concentration of each batch of fountain solution must be monitored using a refractometer or a hydrometer that is corrected for temperature. The refractometer or hydrometer must have a visual, analog, or digital readout with an accuracy of 0.5% VOC. A standard solution must be used to calibrate the refractometer for the type of alcohol used in the fountain solution. The VOC content of the fountain

solution may be monitored with a conductivity meter if it is determined that a refractometer or hydrometer cannot be used for the type of VOC in the fountain solution. The conductivity meter reading for the fountain solution must be referenced to the conductivity of the incoming water. Records must be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) - (4) or (c)(2) - (4) of this title.

(B) The VOC concentration of each batch fountain solution must be determined using analytical data from the MSDS or equivalent information from the supplier that was derived using the approved test methods in §115.445 of this title. The concentration of all alcohols or alcohol substitutes used to prepare the batch and, if diluted prior to use, the proportions that each of these materials is used must be recorded for each batch of fountain solution. Records must be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) - (4) or (c)(2) - (4) of this title.

(4) The owner or operator of an offset lithographic printing press using refrigeration equipment on the fountain solution reservoir shall monitor and record the fountain solution temperature at least once per hour. Temperature monitoring devices must be installed, maintained, and operated according to the manufacturer's specifications. Records must be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) and (4) or (c)(2) and (4) of this title.

(5) The owner or operator of a heatset web offset lithographic printing press shall comply with the following monitoring and recordkeeping requirements to demonstrate continuous compliance with the control requirements in §115.442(b)(5) of this title.

(A) Operational parameters of any emission control device installed to comply with the requirements in §115.442(b)(5) of this title must be continuously measured and recorded. Monitors must be installed, calibrated, maintained, and operated according to the manufacturer's instructions. Temperature monitors must be equipped with a continuous recorder and have an accuracy of ± 0.5 degrees Fahrenheit or $\pm 1.0\%$ of the temperature being monitored, whichever is less stringent. Measuring and recording the operational parameters of the control device at least once every 15 minutes is sufficient to demonstrate compliance with this subparagraph. Records must be sufficient to demonstrate proper functioning of the device to design specifications and must include:

(i) the exhaust gas temperature of direct-flame incinerators and/or the gas temperature immediately upstream and downstream of any catalyst bed;

(ii) the total amount of VOC recovered by a carbon adsorption system or other solvent recovery system per calendar month; and

(iii) the exhaust gas VOC concentration of any carbon adsorption system to determine if breakthrough has occurred.

(B) An air flow direction measuring device must be used to demonstrate the dryer meets the 100% capture efficiency required in §115.442(b)(5) of this title.

(6) The owner or operator of an offset lithographic printing press shall maintain the results of any tests conducted using the approved test methods in §115.445 of this title.

(7) The owner or operator of an offset lithographic printing press shall maintain all records for at least two years and make such records available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution agency with jurisdiction.

Adopted June 3, 2015

Effective June 25, 2015

§115.449. Compliance Schedules.

(a) In the El Paso area, the owner or operator of all offset lithographic printing presses must be in compliance with §§115.442, 115.443, 115.445, and 115.446 of this title (relating to Control Requirements; Alternate Control Requirements; Approved Test Methods; and Monitoring and Recordkeeping Requirements) as soon as practicable, but no later than November 15, 1996.

(b) In Collin, Dallas, Denton, and Tarrant Counties, the owner or operator of all offset lithographic printing presses on a property that, when uncontrolled, emit a combined weight of volatile organic compounds (VOC) equal to or greater than 50 tons per calendar year, must be in compliance with §§115.442(a), 115.443, 115.445, and 115.446(a) of this title as soon as practicable, but no later than December 31, 2000.

(c) In Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties, the owner or operator of all offset lithographic printing presses on a property that, when uncontrolled, emit a combined weight of VOC equal to or greater than 25 tons per calendar year, must be in compliance with §§115.442(a), 115.443, 115.445, and 115.446(a) of this title as soon as practicable, but no later than December 31, 2002.

(d) In Ellis, Johnson, Kaufman, Parker, and Rockwall Counties, the owner or operator of all offset lithographic printing presses on a property that, when uncontrolled, emit a combined weight of VOC equal to or greater than 50 tons per calendar year, shall comply with §§115.442(a), 115.443, 115.445, and 115.446(a) of this title as soon as practicable, but no later than March 1, 2009.

(e) The owner or operator of a major printing source, as defined in §115.440 of this title (relating to Applicability and Definitions), in Brazoria, Chambers, Collin, Dallas, Denton, Ellis, Fort Bend, Galveston, Harris, Johnson, Kaufman, Liberty, Montgomery, Parker, Rockwall, Tarrant, and Waller Counties, as defined in §115.10 of this title (relating to Definitions), shall comply with the requirements in this division no later than March 1, 2011, except as specified in subsections (b), (c), and (d) of this section.

(f) The owner or operator of a minor printing source, as defined in §115.440 of this title, in the Brazoria, Chambers, Collin, Dallas, Denton, Ellis, Fort Bend, Galveston, Harris, Johnson, Kaufman, Liberty, Montgomery, Parker, Rockwall, Tarrant, and Waller Counties, shall comply with the requirements in this division no later than March 1, 2012.

(g) The owner or operator of a major or minor printing source, as defined in §115.440 of this title, in Wise County, shall comply with the requirements in this division as soon as practicable, but no later than January 1, 2017.

(h) The owner or operator of an offset lithographic printing line in Brazoria, Chambers, Collin, Dallas, Denton, Ellis, Fort Bend, Galveston, Harris, Johnson, Kaufman, Liberty, Montgomery, Parker, Rockwall, Tarrant, Waller, and Wise Counties that becomes subject to this division on or after the date specified in subsections (e) - (g) of this section, shall comply with the requirements in this division no later than 60 days after becoming subject.

(i) Upon the date the commission publishes notice in the Texas Register that the Wise County nonattainment designation for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard is no longer legally effective, the owner or operator in Wise County of each offset lithographic printing line is not required to comply with any of the requirements in this division.

Adopted June 3, 2015

Effective June 25, 2015

SUBCHAPTER E: SOLVENT-USING PROCESSES
DIVISION 5: CONTROL REQUIREMENTS FOR SURFACE COATING
PROCESSES

§§115.450, 115.451, 115.453 - 115.455, 115.458, 115.459

Effective June 25, 2015

§115.450. Applicability and Definitions.

(a) Applicability. In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the requirements in this division apply to the following surface coating processes, except as specified in paragraph (6) of this subsection:

(1) large appliance surface coating;

(2) metal furniture surface coating;

(3) miscellaneous metal parts and products surface coating, miscellaneous plastic parts and products surface coating, pleasure craft surface coating, and automotive/transportation and business machine plastic parts surface coating at the original equipment manufacturer and off-site job shops that coat new parts and products or that re-coat used parts and products;

(4) motor vehicle materials applied to miscellaneous metal and plastic parts specified in paragraph (3) of this subsection, at the original equipment manufacturer and off-site job shops that coat new metal and plastic parts or that re-coat used parts and products;

(5) paper, film, and foil surface coating lines with the potential to emit from all coatings greater than or equal to 25 tons per year of volatile organic compounds (VOC) when uncontrolled; and

(6) in the Dallas-Fort Worth area, automobile and light-duty truck assembly surface coating processes conducted by the original equipment manufacturer and operators that conduct automobile and light-duty truck surface coating processes under contract with the original equipment manufacturer.

(b) General definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, or 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply in this division unless the context clearly indicates otherwise.

(1) Aerosol coating (spray paint)--A hand-held, pressurized, non-refillable container that expels an adhesive or a coating in a finely divided spray when a valve on the container is depressed.

(2) Air-dried coating--A coating that is cured at a temperature below 194 degrees Fahrenheit (90 degrees Celsius). These coatings may also be referred to as low-bake coatings.

(3) Baked Coating--A coating that is cured at a temperature at or above 194 degrees Fahrenheit (90 degrees Celsius). These coatings may also be referred to as high-bake coatings.

(4) Coating application system--Devices or equipment designed for the purpose of applying a coating material to a surface. The devices may include, but are not be limited to, brushes, sprayers, flow coaters, dip tanks, rollers, knife coaters, and extrusion coaters.

(5) Coating line--An operation consisting of a series of one or more coating application systems and associated flash-off area(s), drying area(s), and oven(s) wherein a surface coating is applied, dried, or cured. The coating line ends at the point the coating is dried or cured, or prior to any subsequent application of a different coating.

(6) Coating solids (or solids)--The part of a coating that remains on the substrate after the coating is dried or cured.

(7) Daily weighted average--The total weight of volatile organic compounds (VOC) emissions from all coatings subject to the same VOC limit in §115.453 of this title (relating to Control Requirements), divided by the total volume or weight of those coatings (minus water and exempt solvent), where applicable, or divided by the total volume or weight of solids, delivered to the application system on each coating line each day. Coatings subject to different VOC content limits in §115.453 of this title may not be combined for purposes of calculating the daily weighted average.

(8) Multi-component coating--A coating that requires the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to form an acceptable dry film. These coatings may also be referred to as two-component coatings.

(9) Normally closed container--A container that is closed unless an operator is actively engaged in activities such as adding or removing material.

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

(11) Pounds of volatile organic compounds (VOC) per gallon of coating (minus water and exempt solvent)--The basis for content limits for surface coating processes that can be calculated by the following equation:

Figure: 30 TAC §115.450(b)(11)

Pounds of volatile organic compounds (VOC) per gallon of coating (minus water and exempt solvent)

$$= \frac{W_V}{(V_M - V_W - V_{ES})}$$

Where:

W_V = The weight of VOC contained in V_M gallons of coating measured in pounds.

V_M = The volume of coating, generally assumed to be one gallon.

V_W = The volume of water contained in V_M gallons of coating measured in gallons.

V_{ES} = The volume of exempt solvent contained in V_M gallons of coating measured in gallons.

(12) Pounds of volatile organic compounds (VOC) per gallon of solids--The basis for emission limits for surface coating processes that can be calculated by the following equation:

Figure: 30 TAC §115.450(b)(12)

$$\text{Pounds of VOC per gallon of solids} = \frac{W_V}{W_M - V_V - V_W - V_{ES}}$$

Where:

W_V = The weight of volatile organic compounds (VOC) contained in V_M gallons of coating measured in pounds.

V_M = The volume of coating, generally assumed to be one gallon.

V_V = The volume of VOC contained in V_M gallons of coating measured in gallons.

V_W = The volume of water contained in V_M gallons of coating measured in gallons.

V_{ES} = The volume of exempt solvent contained in V_M gallons of coating measured in gallons.

(13) Spray gun--A device that atomizes a coating or other material and projects the particulates or other material onto a substrate.

(14) Surface coating processes--Operations that use a coating application system.

(c) Specific surface coating definitions. The following meanings apply in this division unless the context clearly indicates otherwise.

(1) Automobile and light-duty truck manufacturing--The following definitions apply to this surface coating category.

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

(B) Automobile and light-duty truck adhesive--An adhesive, including glass-bonding adhesive, used in an automobile or light-duty truck assembly surface coating process and applied for the purpose of bonding two vehicle surfaces together without regard to the substrates involved.

(C) Automobile and light-duty truck bedliner--A multi-component coating used in an automobile or light-duty truck assembly surface coating process and applied to a cargo bed after the application of topcoat and outside of the topcoat operation to provide additional durability and chip resistance.

(D) Automobile and light-duty truck cavity wax--A coating, used in an automobile or light-duty truck assembly surface coating process, applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection.

(E) Automobile and light-duty truck deadener--A coating used in an automobile or light-duty truck assembly surface coating process and applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.

(F) Automobile and light-duty truck gasket/gasket sealing material--A fluid used in an automobile or light-duty truck assembly surface coating process and applied to coat a gasket or replace and perform the same function as a gasket. Automobile and light-duty truck gasket/gasket sealing material includes room temperature vulcanization seal material.

(G) Automobile and light-duty truck glass-bonding primer--A primer, used in an automobile or light-duty truck assembly surface coating process, applied to windshield or other glass, or to body openings, to prepare the glass or body

opening for the application of glass-bonding adhesives or the installation of adhesive-bonded glass. Automobile and light-duty truck glass-bonding primer includes glass-bonding/cleaning primers that perform both functions (cleaning and priming of the windshield or other glass, or body openings) prior to the application of an adhesive or the installation of adhesive-bonded glass.

(H) Automobile and light-duty truck lubricating wax/compound--A protective lubricating material used in an automobile or light-duty truck assembly surface coating process and applied to vehicle hubs and hinges.

(I) Automobile and light-duty truck sealer--A high viscosity material used in an automobile or light-duty truck assembly surface coating process and generally, but not always, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent coatings (e.g., primer-surfacer). The primary purpose of automobile and light-duty truck sealer is to fill body joints completely so that there is no intrusion of water, gases, or corrosive materials into the passenger area of the body compartment. Such materials are also referred to as sealant, sealant primer, or caulk.

(J) Automobile and light-duty truck trunk interior coating--A coating used in an automobile or light-duty truck assembly surface coating process outside of the primer-surfacer and topcoat operations and applied to the trunk interior to provide chip protection.

(K) Automobile and light-duty truck underbody coating--A coating used in an automobile or light-duty truck assembly surface coating process and applied to the undercarriage or firewall to prevent corrosion or provide chip protection.

(L) Automobile and light-duty truck weather strip adhesive--An adhesive used in an automobile or light-duty truck assembly surface coating process and applied to weather-stripping materials for the purpose of bonding the weather-stripping material to the surface of the vehicle.

(M) Automobile assembly surface coating process--The assembly-line coating of new passenger cars, or passenger car derivatives, capable of seating 12 or fewer passengers.

(N) Electrodeposition primer--A process of applying a protective, corrosion-resistant waterborne primer on exterior and interior surfaces that provides thorough coverage of recessed areas. Electrodeposition primer is a dip-coating method that uses an electrical field to apply or deposit the conductive coating onto the part; the object being painted acts as an electrode that is oppositely charged from the particles of

paint in the dip tank. Electrodeposition primer is also referred to as E-Coat, Uni-Prime, and ELPO Primer.

(O) Final repair--The operation(s) performed and coating(s) applied to completely assembled motor vehicles or to parts that are not yet on a completely assembled vehicle to correct damage or imperfections in the coating. The curing of the coatings applied in these operations is accomplished at a lower temperature than that used for curing primer-surfacer and topcoat. This lower temperature cure avoids the need to send parts that are not yet on a completely assembled vehicle through the same type of curing process used for primer-surfacer and topcoat and is necessary to protect heat-sensitive components on completely assembled vehicles.

(P) In-line repair--The operation(s) performed and coating(s) applied to correct damage or imperfections in the topcoat on parts that are not yet on a completely assembled vehicle. The curing of the coatings applied in these operations is accomplished at essentially the same temperature as that used for curing the previously applied topcoat. In-line repair is also referred to as high-bake repair or high-bake reprocess. In-line repair is considered part of the topcoat operation.

(Q) Light-duty truck assembly surface coating process--The assembly-line coating of new motor vehicles rated at 8,500 pounds gross vehicle weight or less and designed primarily for the transportation of property, or derivatives such as pickups, vans, and window vans.

(R) Primer-surfacer--An intermediate protective coating applied over the electrodeposition primer and under the topcoat. Primer-surfacer provides adhesion, protection, and appearance properties to the total finish. Primer-surfacer is also referred to as guide coat or surfacer. Primer-surfacer operations may include other coatings (e.g., anti-chip, lower-body anti-chip, chip-resistant edge primer, spot primer, blackout, deadener, interior color, basecoat replacement coating, etc.) that are applied in the same spray booth(s).

(S) Topcoat--The final coating system applied to provide the final color or a protective finish. The topcoat may be a monocoat color or basecoat/clearcoat system. In-line repair and two-tone are part of topcoat. Topcoat operations may include other coatings (e.g., blackout, interior color, etc.) that are applied in the same spray booth(s).

(T) Solids turnover ratio (RT)--The ratio of total volume of coating solids that is added to the electrodeposition primer system (EDP) in a calendar month divided by the total volume design capacity of the EDP system.

(2) Automotive/transportation and business machine plastic parts--The following definitions apply to this surface coating category.

(A) Adhesion prime--A coating that is applied to a polyolefin part to promote the adhesion of a subsequent coating. An adhesion prime is clearly identified as an adhesion prime or adhesion promoter on its accompanying material safety data sheet.

(B) Automotive/transportation plastic parts--Interior and exterior plastic components of automobiles, trucks, tractors, lawnmowers, and other mobile equipment.

(C) Black coating--A coating that has a maximum lightness of 23 units and a saturation less than 2.8, where saturation equals the square root of $A_2 + B_2$. These criteria are based on Cielab color space, 0/45 geometry. For spherical geometry, specular included, maximum lightness is 33 units.

(D) Business machine--A device that uses electronic or mechanical methods to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission. This definition includes devices listed in Standard Industrial Classification codes 3572, 3573, 3574, 3579, and 3661 and photocopy machines, a subcategory of Standard Industrial Classification code 3861.

(E) Clear coating--A coating that lacks color and opacity or is transparent and that uses the undercoat as a reflectant base or undertone color.

(F) Coating of plastic parts of automobiles and trucks--The coating of any plastic part that is or will be assembled with other parts to form an automobile or truck.

(G) Coating of business machine plastic parts--The coating of any plastic part that is or will be assembled with other parts to form a business machine.

(H) Electrostatic prep coat--A coating that is applied to a plastic part solely to provide conductivity for the subsequent application of a prime, a topcoat, or other coating through the use of electrostatic application methods. An electrostatic prep coat is clearly identified as an electrostatic prep coat on its accompanying material safety data sheet.

(I) Flexible coating--A coating that is required to comply with engineering specifications for impact resistance, mandrel bend, or elongation as defined by the original equipment manufacturer.

(J) Fog coat--A coating that is applied to a plastic part for the purpose of color matching without masking a molded-in texture. A fog coat may not be applied at a thickness of more than 0.5 mil of coating solids.

(K) Gloss reducer--A coating that is applied to a plastic part solely to reduce the shine of the part. A gloss reducer may not be applied at a thickness of more than 0.5 mil of coating solids.

(L) Red coating--A coating that meets all of the following criteria:

(i) yellow limit: the hue of hostaperm scarlet;

(ii) blue limit: the hue of monastral red-violet;

(iii) lightness limit for metallics: 35% aluminum flake;

(iv) lightness limit for solids: 50% titanium dioxide white;

(v) solid reds: hue angle of -11 to 38 degrees and maximum lightness of 23 to 45 units; and

(vi) metallic reds: hue angle of -16 to 35 degrees and maximum lightness of 28 to 45 units. These criteria are based on Cielab color space, 0/45 geometry. For spherical geometry, specular included, the upper limit is 49 units. The maximum lightness varies as the hue moves from violet to orange. This is a natural consequence of the strength of the colorants, and real colors show this effect.

(M) Resist coat--A coating that is applied to a plastic part before metallic plating to prevent deposits of metal on portions of the plastic part.

(N) Stencil coat--A coating that is applied over a stencil to a plastic part at a thickness of 1.0 mil or less of coating solids. Stencil coats are most frequently letters, numbers, or decorative designs.

(O) Texture coat--A coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating.

(P) Vacuum-metalizing coatings--Topcoats and basecoats that are used in the vacuum-metalizing process.

(3) Large appliance coating--The coating of doors, cases, lids, panels, and interior support parts of residential and commercial washers, dryers, ranges,

refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other large appliances.

(A) Extreme high-gloss coating--A coating which, when tested by the American Society for Testing Material Test Method D523 adopted in 1980, shows a reflectance of 75% or more on a 60 degree meter.

(B) Extreme performance coating--A coating used on a metal surface where the coated surface is, in its intended use, subject to:

(i) chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions;

(ii) repeated exposure to temperatures in excess of 250 degrees Fahrenheit (121 degrees Celsius);

(iii) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents; or

(iv) exposure to extreme environmental conditions, such as continuous outdoor exposure.

(C) Heat-resistant coating--A coating that must withstand a temperature of at least 400 degrees Fahrenheit (204 degrees Celsius) during normal use.

(D) Metallic coating--A coating that contains more than 0.042 pounds of metal particles per gallon of coating as applied. Metal particles are pieces of a pure elemental metal or a combination of elemental metals.

(E) Pretreatment coating--A coating that contains no more than 12% solids by weight and at least 0.50% acid by weight; is used to provide surface etching; and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

(F) Solar-absorbent coating--A coating that has as its prime purpose the absorption of solar radiation.

(4) Metal furniture coating--The coating of metal furniture including, but not limited to, tables, chairs, wastebaskets, beds, desks, lockers, benches, shelves, file cabinets, lamps, and other metal furniture products or the coating of any metal part that will be a part of a nonmetal furniture product.

(A) Extreme high-gloss coating--A coating which, when tested by the American Society for Testing Material Test Method D523 adopted in 1980, shows a reflectance of 75% or more on a 60 degree meter.

(B) Extreme performance coating--A coating used on a metal surface where the coated surface is, in its intended use, subject to:

(i) chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions;

(ii) repeated exposure to temperatures in excess of 250 degrees Fahrenheit (121 degrees Celsius);

(iii) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents; or

(iv) exposure to extreme environmental conditions, such as continuous outdoor exposure.

(C) Heat-resistant coating--A coating that must withstand a temperature of at least 400 degrees Fahrenheit (204 degrees Celsius) during normal use.

(D) Metallic coating--A coating containing more than 5.0 grams of metal particles per liter of coating as applied. Metal particles are pieces of a pure elemental metal or a combination of elemental metals.

(E) Pretreatment coating--A coating that contains no more than 12% solids by weight and at least 0.50% acid by weight; is used to provide surface etching; and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

(F) Solar-absorbent coating--A coating that has as its primary purpose the absorption of solar radiation.

(5) Miscellaneous metal and plastic parts--The following definitions apply to this surface coating category.

(A) Camouflage coating--A coating used, principally by the military, to conceal equipment from detection.

(B) Clear coat--A coating that lacks opacity or is transparent and may or may not have an undercoat that is used as a reflectant base or undertone color.

(C) Drum (metal)--Any cylindrical metal shipping container with a capacity equal to or greater than 12 gallons but equal to or less than 110 gallons.

(D) Electric-dissipating coating--A coating that rapidly dissipates a high-voltage electric charge.

(E) Electric-insulating varnish--A non-convertible-type coating applied to electric motors, components of electric motors, or power transformers, to provide electrical, mechanical, and environmental protection or resistance.

(F) EMI/RFI shielding--A coating used on electrical or electronic equipment to provide shielding against electromagnetic interference (EMI), radio frequency interference (RFI), or static discharge.

(G) Etching filler--A coating that contains less than 23% solids by weight and at least 0.50% acid by weight and is used instead of applying a pretreatment coating followed by a primer.

(H) Extreme high-gloss coating--A coating which, when tested by the American Society for Testing and Materials Test Method D523 adopted in 1980, shows a reflectance of 75% or more on a 60 degree meter.

(I) Extreme performance coating--A coating used on a metal or plastic surface where the coated surface is, in its intended use, subject to one of the following conditions. Extreme performance coatings include, but are not limited to, coatings applied to locomotives, railroad cars, farm machinery, marine shipping containers, downhole drilling equipment, and heavy-duty trucks:

(i) chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions;

(ii) repeated exposure to temperatures in excess of 250 degrees Fahrenheit (121 degrees Celsius);

(iii) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents; or

(iv) exposure to extreme environmental conditions, such as continuous outdoor exposure.

(J) Heat-resistant coating--A coating that must withstand a temperature of at least 400 degrees Fahrenheit (204 degrees Celsius) during normal use.

(K) High performance architectural coating--A coating used to protect architectural subsections and meets the requirements of the American Architectural Manufacturers Association's publication number AAMA 2604-05 (Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels) or 2605-05 (Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels).

(L) High temperature coating--A coating that is certified to withstand a temperature of 1000 degrees Fahrenheit (538 degrees Celsius) for 24 hours.

(M) Mask coating--A thin film coating applied through a template to coat a small portion of a substrate.

(N) Metallic coating--A coating containing more than 5.0 grams of metal particles per liter of coating as applied. Metal particles are pieces of a pure elemental metal or a combination of elemental metals.

(O) Military specification coating--A coating that has a formulation approved by a United States Military Agency for use on military equipment.

(P) Mold-seal coating--The initial coating applied to a new mold or a repaired mold to provide a smooth surface that when coated with a mold release coating, prevents products from sticking to the mold.

(Q) Miscellaneous metal parts and products--Parts and products considered miscellaneous metal parts and products include:

(i) large farm machinery (harvesting, fertilizing, and planting machines, tractors, combines, etc.);

(ii) small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.);

(iii) small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.);

(iv) commercial machinery (computers and auxiliary equipment, typewriters, calculators, vending machines, etc.);

(v) industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.);

(vi) fabricated metal products (metal-covered doors, frames, etc.); and

(vii) any other category of coated metal products, including, but not limited to, those that are included in the Standard Industrial Classification Code major group 33 (primary metal industries), major group 34 (fabricated metal products), major group 35 (nonelectrical machinery), major group 36 (electrical machinery), major group 37 (transportation equipment), major group 38 (miscellaneous instruments), and major group 39 (miscellaneous manufacturing industries). Excluded are those surface coating processes specified in §115.420(c)(1) - (8) and (10) - (16) of this title (relating to Surface Coating Definitions) and paragraphs (1) - (4) and (6) - (8) of this subsection.

(R) Miscellaneous plastic parts and products--Parts and products considered miscellaneous plastic parts and products include, but are not limited to:

(i) molded plastic parts;

(ii) small and large farm machinery;

(iii) commercial and industrial machinery and equipment;

(iv) interior or exterior automotive parts;

(v) construction equipment;

(vi) motor vehicle accessories;

(vii) bicycles and sporting goods;

(viii) toys;

(ix) recreational vehicles;

(x) lawn and garden equipment;

(xi) laboratory and medical equipment;

(xii) electronic equipment; and

(xiii) other industrial and household products. Excluded are those surface coating processes specified in §115.420(c)(1) - (16) of this title and paragraphs (1) - (4) and (6) - (8) of this subsection.

(S) Multi-colored coating--A coating that exhibits more than one color when applied, is packaged in a single container, and applied in a single coat.

(T) Off-site job shop--A non-manufacturer of metal or plastic parts and products that applies coatings to such products at a site under contract with one or more parties that operate under separate ownership and control.

(U) Optical coating--A coating applied to an optical lens.

(V) Pail (metal)--Any cylindrical metal shipping container with a capacity equal to or greater than 1 gallon but less than 12 gallons and constructed of 29 gauge or heavier material.

(W) Pan-backing coating--A coating applied to the surface of pots, pans, or other cooking implements that are exposed directly to a flame or other heating elements.

(X) Prefabricated architectural component coating--A coating applied to metal parts and products that are to be used as an architectural structure.

(Y) Pretreatment coating--A coating that contains no more than 12% solids by weight and at least 0.50% acid by weight; is used to provide surface etching; and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

(Z) Repair coating--A coating used to re-coat portions of a previously coated product that has sustained mechanical damage to the coating following normal surface coating processes.

(AA) Safety-indicating coating--A coating that changes physical characteristics, such as color, to indicate unsafe conditions.

(BB) Shock-free coating--A coating applied to electrical components to protect the user from electric shock. The coating has characteristics of being low-capacitance and high-resistance and having resistance to breaking down under high voltage.

(CC) Silicone-release coating--A coating that contains silicone resin and is intended to prevent food from sticking to metal surfaces such as baking pans.

(DD) Solar-absorbent coating--A coating that has as its primary purpose the absorption of solar radiation.

(EE) Stencil coating--A pigmented coating or ink that is rolled or brushed onto a template or stamp in order to add identifying letters, symbols, or numbers.

(FF) Touch-up coating--A coating used to cover minor coating imperfections appearing after the main surface coating process.

(GG) Translucent coating--A coating that contains binders and pigment and formulated to form a colored, but not opaque, film.

(HH) Vacuum-metalizing coating--The undercoat applied to the substrate on which the metal is deposited or the overcoat applied directly to the metal film. Vacuum metalizing or physical vapor deposition is the process whereby metal is vaporized and deposited on a substrate in a vacuum chamber.

(6) Motor vehicle materials--The following definitions apply to this surface coating category.

(A) Motor vehicle bedliner--A multi-component coating used in a process that is not an automobile or light-duty truck manufacturing coating process and is applied to a cargo bed after the application of topcoat to provide additional durability and chip resistance.

(B) Motor vehicle cavity wax--A coating used in a process that is not an automobile or light-duty truck manufacturing coating process and is applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection.

(C) Motor vehicle deadener--A coating used in a process that is not an automobile or light-duty truck manufacturing coating process and is applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.

(D) Motor vehicle gasket/sealing material--A fluid used in a process that is not an automobile or light-duty truck manufacturing coating process and is applied to coat a gasket or replace and perform the same function as a gasket. Automobile and light-duty truck gasket/gasket sealing material includes room temperature vulcanization seal material.

(E) Motor vehicle lubricating wax/compound--A protective lubricating material used in a process that is not an automobile or light-duty truck manufacturing coating process and is applied to vehicle hubs and hinges.

(F) Motor vehicle sealer--A high viscosity material used in a process that is not an automobile or light-duty truck manufacturing coating process and is generally, but not always, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent coatings (e.g., primer-surfacer). The primary purpose of motor vehicle sealer is to fill body joints completely so that there is no intrusion of water, gases, or corrosive materials into the passenger area of the body compartment. Such materials are also referred to as sealant, sealant primer, or caulk.

(G) Motor vehicle trunk interior coating--A coating used in a process that is not an automobile or light-duty truck manufacturing coating process and is applied to the trunk interior to provide chip protection.

(H) Motor vehicle underbody coating--A coating used in a process that is not an automobile or light-duty truck manufacturing coating process and is applied to the undercarriage or firewall to prevent corrosion or provide chip protection.

(7) Paper, film, and foil coating--The coating of paper and pressure-sensitive tapes (regardless of substrate and including paper, fabric, and plastic film), related web coating processes on plastic film (including typewriter ribbons, photographic film, and magnetic tape), metal foil (including decorative, gift wrap, and packaging), industrial and decorative laminates, abrasive products (including fabric coated for use in abrasive products), and flexible packaging.

(A) Paper, film, and foil coating includes the application of a continuous layer of a coating material across the entire width or any portion of the width of a paper, film, or foil web substrate to:

(i) provide a covering, finish, or functional or protective layer to the substrate;

(ii) saturate the substrate for lamination; or

(iii) provide adhesion between two substrates for lamination.

(B) Paper, film, and foil coating excludes coating performed on or in-line with any offset lithographic, screen, letterpress, flexographic, rotogravure, or digital printing press; or size presses and on-machine coaters that function as part of an in-line papermaking system.

(8) Pleasure craft--Any marine or fresh-water vessel used by individuals for noncommercial, nonmilitary, and recreational purposes that is less than 65.6 feet in length. A vessel rented exclusively to, or chartered for, individuals for such purposes is considered a pleasure craft.

(A) Antifoulant coating--A coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, and registered with the United States Environmental Protection Agency as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code, §136).

(B) Antifoulant sealer/tie coating--A coating applied over an antifoulant coating to prevent the release of biocides into the environment or to promote adhesion between an antifoulant coating and a primer or other antifoulants.

(C) Extreme high-gloss coating--A coating that achieves at least 90% reflectance on a 60 degree meter when tested by American Society for Testing and Materials Method D523-89.

(D) Finish primer-surfacer--A coating applied with a wet film thickness less than 10 mils prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, a moisture barrier, or promotion of a uniform surface necessary for filling in surface imperfections.

(E) High-build primer-surfacer--A coating applied with a wet film thickness of 10 mils or more prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, or a moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

(F) High-gloss coating--A coating that achieves at least 85% reflectance on a 60 degree meter when tested by American Society for Testing and Materials Test Method D523-89.

(G) Pleasure craft coating--A marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, roller, or other means to a pleasure craft.

(H) Pretreatment wash primer--A coating that contains no more than 25% solids by weight and at least 0.10% acids by weight; used to provide surface etching; and applied directly to fiberglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings.

(I) Repair coating--A coating used to re-coat portions of a previously coated product that has sustained mechanical damage to the coating following normal surface coating processes.

(J) Topcoat--A final coating applied to the interior or exterior of a pleasure craft.

(K) Touch-up coating--A coating used to cover minor coating imperfections appearing after the main surface coating process.

Adopted June 3, 2015

Effective June 25, 2105

§115.451. Exemptions.

(a) The volatile organic compounds (VOC) from coatings and solvents used in surface coating processes and associated cleaning operations not addressed by the surface coating categories in §115.421(3) - (7), (9), (10), and (13) - (16) of this title (relating to Emission Specifications) or §115.453 of this title (relating to Control Requirements) are excluded from the VOC emission calculations for the purposes of paragraphs (1) - (3) of this subsection. For example, architectural coatings applied in the field to stationary structures and their appurtenances, portable buildings, pavements, or curbs at a property would not be included in the calculations.

(1) All surface coating processes on a property that, when uncontrolled, will emit a combined weight of VOC of less than 3.0 pounds per hour and 15 pounds in any consecutive 24-hour period are exempt from §115.453 of this title.

(2) Surface coating processes on a property that, when uncontrolled, will emit a combined weight of VOC of less than 100 pounds in any consecutive 24-hour period are exempt from §115.453(a) of this title if documentation is provided to and approved by both the executive director and the United States Environmental Protection Agency to demonstrate that necessary coating performance criteria cannot be achieved with coatings that satisfy applicable VOC limits and that control equipment is not technologically or economically feasible.

(3) Surface coating processes on a property where total coating and solvent usage does not exceed 150 gallons in any consecutive 12-month period are exempt from the VOC limits in §115.453(a) of this title.

(b) The following surface coating processes are exempt from the VOC limits for miscellaneous metal and plastic parts coatings in §115.453(a)(1)(C) - (F) of this title and motor vehicle materials in §115.453(a)(2) of this title:

- (1) large appliance surface coating;
- (2) metal furniture surface coating;
- (3) automobile and light-duty truck assembly surface coating; and
- (4) surface coating processes specified in §115.420(a)(1) - (9) and (11) - (16) of this title (relating to Applicability and Definitions).

(c) Paper, film, and foil surface coating processes are exempt from the coating application system requirements in §115.453(c) of this title and the coating use work practice requirements in §115.453(d)(1) of this title.

(d) Automobile and light-duty truck assembly surface coating processes are exempt from the coating application system requirements in §115.453(c) of this title and the cleaning-related work practice requirements in §115.453(d)(2) of this title.

(e) Automobile and light-duty truck assembly surface coating materials supplied in containers with a net volume of 16 ounces or less, or a net weight of 1.0 pound or less, are exempt from the VOC limits in Table 2 in §115.453(a)(3) of this title.

(f) The following miscellaneous metal part and product surface coatings and surface coating processes are exempt from the coating application system requirements in §115.453(c) of this title:

- (1) touch-up coatings, repair coatings, and textured finishes;
- (2) stencil coatings;
- (3) safety-indicating coatings;
- (4) solid-film lubricants;
- (5) electric-insulating and thermal-conducting coatings;
- (6) magnetic data storage disk coatings; and
- (7) plastic extruded onto metal parts to form a coating.

(g) All miscellaneous plastic part airbrush surface coatings and surface coating processes where total coating usage is less than 5.0 gallons per year are exempt from the coating application system requirements in §115.453(c) of this title.

(h) The application of extreme high-gloss coatings to pleasure craft is exempt from the coating application system requirements in §115.453(c) of this title.

(i) The following miscellaneous plastic parts surface coatings and surface coating processes are exempt from the coating VOC limits in §115.453(a)(1)(D) of this title:

(1) touch-up and repair coatings;

(2) stencil coatings applied on clear or transparent substrates;

(3) clear or translucent coatings;

(4) any individual coating type used in volumes less than 50 gallons in any one year, if substitute compliant coatings are not available, provided that the total usage of all such coatings does not exceed 200 gallons per year, per property;

(5) reflective coating applied to highway cones;

(6) mask coatings that are less than 0.5 mil thick dried and the area coated is less than 25 square inches;

(7) electromagnetic interference/radio frequency interference (EMI/RFI) shielding coatings; and

(8) heparin-benzalkonium chloride-containing coatings applied to medical devices, if the total usage of all such coatings does not exceed 100 gallons per year, per property.

(j) The following automotive/transportation and business machine plastic part surface coatings and surface coating processes are exempt from the VOC limits in §115.453(a)(1)(E) of this title:

(1) texture coatings;

(2) vacuum-metalizing coatings;

(3) gloss reducers;

(4) texture topcoats;

(5) adhesion primers;

(6) electrostatic preparation coatings;

(7) resist coatings; and

(8) stencil coatings.

(k) Powder coatings and ultraviolet curable coatings applied during metal and plastic parts surface coating processes specified in §115.453(a)(1)(C) - (F) and (2) of this title are exempt from the requirements in this division, except as specified in §115.458(b)(5) of this title (relating to Monitoring and Recordkeeping Requirements).

(l) Aerosol coatings (spray paint) are exempt from this division.

(m) Coatings applied to test panels and coupons as part of research and development, quality control, or performance testing activities at paint research or manufacturing facilities are exempt from the requirements in this division.

(n) Pleasure craft touch-up and repair coatings supplied in containers less than or equal to 1.0 quart, are exempt from the VOC limits in §115.453(a)(1)(F) of this title provided that the total usage of all such coatings does not exceed 50 gallons per calendar year per property.

(o) Pleasure craft surface coating processes are exempt from the VOC limits in §115.453(a)(1)(C) and (D) of this title.

(p) Adhesives applied to miscellaneous metal and plastic parts listed in §115.453(a)(1)(C) - (F) and (2) of this title that meet a specific adhesive or adhesive primer application process definition in §115.470 of this title (relating to Applicability and Definitions) and are listed in Table 2 of §115.473(a) of this title (relating to Control Requirements) are not subject to the requirements in this division. Contact adhesives are not included in this exemption.

Adopted June 3, 2015

Effective June 25, 2015

§115.453. Control Requirements.

(a) The following control requirements apply to surface coating processes subject to this division. Except as specified in paragraph (3) of this subsection, these limitations are based on the daily weighted average of all coatings, as defined in §101.1 of this title (relating to Definitions), as delivered to the application system.

(1) The following limits must be met by applying low-volatile organic compound (VOC) coatings to meet the specified VOC content limits on a pound of VOC per gallon of coating basis (lb VOC/gal coating) (minus water and exempt solvent), or by

applying coatings in combination with the operation of a vapor control system, as defined in §115.10 (relating to Definitions), to meet the specified VOC emission limits on a pound of VOC per gallon of solids basis (lb VOC/gal solids). If a coating meets more than one coating type definition, then the coating with the least stringent VOC limit applies.

(A) Large appliances. If a coating does not meet a specific coating type definition, then it can be assumed to be a general-use coating and the VOC limit for general coating applies.

Figure: 30 TAC §115.453(a)(1)(A)

Table 1.

Coating Type	Baked pounds of volatile organic compounds per gallon coating	Air-Dried pounds of volatile organic compounds per gallon coating
General Coating, One-Component	2.3	2.3
General Coating, Multi-Component	2.3	2.8
Extreme High-Gloss Coating	2.8	2.8
Extreme Performance Coating	2.8	2.8
Heat-Resistant Coating	2.8	2.8
Metallic Coating	2.8	2.8
Pretreatment Coating	2.8	2.8
Solar-Absorbent Coating	2.8	2.8

Table 2.

Coating Type	Baked pounds of volatile organic compounds per gallon solids	Air-Dried pounds of volatile organic compounds per gallon solids
General Coating, One-Component	3.3	3.3
General Coating, Multi-Component	3.3	4.5
Extreme High-Gloss Coating	4.5	4.5
Extreme Performance Coating	4.5	4.5
Heat-Resistant Coating	4.5	4.5
Metallic Coating	4.5	4.5
Pretreatment Coating	4.5	4.5
Solar-Absorbent Coating	4.5	4.5

(B) Metal furniture. If a coating does not meet a specific coating type definition, then it can be assumed to be a general-use coating and the VOC limit for general coating applies.

Figure: 30 TAC §115.453(a)(1)(B)

Table 1.

Coating Type	Baked pounds of volatile organic compounds per gallon coating	Air-Dried pounds of volatile organic compounds per gallon coating
General Coating, One-Component	2.3	2.3
General Coating, Multi-Component	2.3	2.8
Extreme High-Gloss Coating	3.0	2.8
Extreme Performance Coating	3.0	3.0
Heat-Resistant Coating	3.0	3.0
Metallic Coating	3.0	3.0
Pretreatment Coating	3.0	3.0
Solar-Absorbent Coating	3.0	3.0

Table 2.

Coating Type	Baked pounds of volatile organic compounds per gallon solids	Air-Dried pounds of volatile organic compounds per gallon solids
General Coating, One-Component	3.3	3.3
General Coating, Multi-Component	3.3	4.5
Extreme High-Gloss Coating	5.1	4.5
Extreme Performance Coating	5.1	5.1
Heat-Resistant Coating	5.1	5.1
Metallic Coating	5.1	5.1
Pretreatment Coating	5.1	5.1
Solar-Absorbent Coating	5.1	5.1

(C) Miscellaneous metal parts and products. If a coating does not meet a specific coating type definition, then it can be assumed to be a general-use coating and the VOC limit for general coating applies.

Figure: 30 TAC §115.453(a)(1)(C)

Table 1.

Coating Category	Air-Dried pounds of volatile organic compounds per gallon coating	Baked pounds of volatile organic compounds per gallon coating
General Coating, One-Component	2.8	2.3
General Coating, Multi-Component	2.8	2.3
Camouflage Coating	3.5	3.0
Electric-Insulating Varnish Coating	3.5	3.0
Etching Filler Coating	3.5	3.0
Extreme High-Gloss Coating	3.5	3.0
Extreme Performance Coating	3.5	3.0
Heat-Resistant Coating	3.5	3.0
High Performance Architectural Coating	6.2	6.2
High Temperature Coating	3.5	3.5
Metallic Coating	3.5	3.0
Military Specification Coating	2.8	2.3
Mold-Seal Coating	3.5	3.0
Pan-Backing Coating	3.5	3.5
Prefabricated Architectural Coating, Multi-Component	3.5	2.3
Prefabricated Architectural Coating, One-Component	3.5	2.3
Pretreatment Coating	3.5	3.0
Repair and Touch-Up Coating	3.5	3.0
Silicone Release Coating	3.5	3.0
Solar-Absorbent Coating	3.5	3.0
Vacuum-Metalizing Coating	3.5	3.0
Drum Coating, New, Exterior	2.8	2.8
Drum Coating, New, Interior	3.5	3.5
Drum Coating, Reconditioned, Exterior	3.5	3.0
Drum Coating, Reconditioned, Interior	4.2	4.2

Table 2.

Coating Category	Air-Dried pounds of volatile organic compounds per gallon solids	Baked pounds of volatile organic compounds per gallon solids
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Coating Category	Air-Dried pounds of volatile organic compounds per gallon solids	Baked pounds of volatile organic compounds per gallon solids
General Coating, One-Component	4.52	3.35
General Coating, Multi-Component	4.52	3.35
Camouflage Coating	6.67	5.06
Electric-Insulating Varnish Coating	6.67	5.06
Etching Filler Coating	6.67	5.06
Extreme High-Gloss Coating	6.67	5.06
Extreme Performance Coating	6.67	5.06
Heat-Resistant Coating	6.67	5.06
High Performance Architectural Coating	38.0	38.0
High Temperature Coating	6.67	6.67
Metallic Coating	6.67	5.06
Military Specification Coating	4.52	3.35
Mold-Seal Coating	6.67	5.06
Pan-Backing Coating	6.67	6.67
Prefabricated Architectural Coating, Multi-Component	6.67	3.35
Prefabricated Architectural Coating, One-Component	6.67	3.35
Pretreatment Coating	6.67	5.06
Repair and Touch-up Coating	6.67	5.06
Silicone Release Coating	6.67	5.06
Solar-Absorbent Coating	6.67	5.06
Vacuum-Metalizing Coating	6.67	5.06
Drum Coating, New, Exterior	4.52	4.52
Drum Coating, New, Interior	6.67	6.67
Drum Coating, Reconditioned, Exterior	6.67	5.06
Drum Coating, Reconditioned, Interior	9.78	9.78

(D) Miscellaneous plastic parts and products. If a coating does not meet a specific coating category definition, then it can be assumed to be a general-use coating and the VOC limit for general coating applies.

Figure: 30 TAC §115.453(a)(1)(D)

Table 1.

Coating Category	Pounds of volatile organic compounds per gallon coating
General Coating, One-Component	2.3
General Coating, Multi-Component	3.5
Electric-Dissipating and Shock-Free Coating	6.7
Extreme Performance Coating, Multi-Component	3.5
Metallic Coating	3.5
Military Specification Coating, One-Component	2.8
Military Specification Coating, Multi-Component	3.5
Mold-Seal Coating	6.3
Multi-Colored Coating	5.7
Optical Coating	6.7
Vacuum-Metalizing Coating	6.7

Table 2.

Coating Category	Pounds of volatile organic compounds per gallon solids
General Coating, One-Component	3.35
General Coating, Multi-Component	6.67
Electric-Dissipating and Shock-Free Coating	74.7
Extreme Performance Coating, Multi-Component	6.67
Metallic Coating	6.67
Military Specification Coating, One-Component	4.52
Military Specification Coating, Multi-Component	6.67
Mold-Seal Coating	43.7
Multi-Colored Coating	25.3
Optical Coating	74.7
Vacuum-Metalizing Coating	74.7

(E) Automotive/transportation and business machine plastic parts. For red, yellow, and black automotive/transportation coatings, except touch-up and repair coatings, the VOC limit is determined by multiplying the appropriate limit in Table 1 of this subparagraph by 1.15.

Figure: 30 TAC §115.453(a)(1)(E)

Table 1.

Automotive/Transportation Coating	Pounds of	Pounds of
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Category	volatile organic compounds (VOC) per gallon coating	VOC per gallon solids
Flexible Primer, Baked, Interior and Exterior Parts	4.5	11.58
Non-flexible Primer, Baked, Interior and Exterior Parts	3.5	6.67
Base Coats, Baked, Interior and Exterior Parts	4.3	10.34
Clear Coat, Baked, Interior and Exterior Parts	4.0	8.76
Non-Base Coat/ Clear Coat, Baked, Interior and Exterior Parts	4.3	10.34
Primers, Air-Dried, Exterior Parts	4.8	13.80
Base Coat, Air-Dried, Exterior Parts	5.0	15.59
Clear Coat, Air-Dried, Exterior Parts	4.5	11.58
Non-Base Coat/ Clear Coat, Air-Dried, Exterior Parts	5.0	15.59
Air-Dried Coatings, Interior Parts	5.0	15.59
Touch-Up and Repair Coatings	5.2	17.72

Table 2.

Business Machine Coating Category	Pounds of VOC per gallon coating	Pounds of VOC per gallon solids
Primers	2.9	4.80
Topcoat	2.9	4.80
Texture Coat	2.9	4.80
Fog Coat	2.2	3.14
Touch-up and repair	2.9	4.80

(F) Pleasure craft. If a coating does not meet a specific coating category definition, then it can be assumed to be a general-use coating and the VOC limits for other coatings applies.

Figure: 30 TAC §115.453(a)(1)(F)

Table 1.

Coating Category	Pounds of volatile organic compounds per gallon coating
Extreme High-Gloss Topcoat	5.0
High-Gloss Topcoat	3.5
Pretreatment Wash Primers	6.5
Finish Primer-Surfacer	5.0
High Build Primer-Surfacer	2.8
Aluminum Substrate Antifoulant	4.7
Other Substrate Antifoulant	3.3
Antifoulant Sealer/Tie Coating	3.5
All other pleasure craft surface coatings for metal or plastic	3.5

Table 2.

Coating Category	Pounds of volatile organic compounds per gallon solids
Extreme High-Gloss Topcoat	15.6
High-Gloss Topcoat	6.7
Pretreatment Wash Primers	55.6
Finish Primer-Surfacer	15.6
High Build Primer-Surfacer	4.6
Aluminum Substrate Antifoulant	12.8
Other Substrate Antifoulant	6.0
Antifoulant Sealer/Tie Coating	6.7
All other pleasure craft surface coatings for metal or plastic	6.7

(2) The coating VOC limits for motor vehicle materials applied to the metal and plastic parts in paragraph (1)(C) - (F) of this subsection, as delivered to the application system, must be met using low-VOC coatings (minus water and exempt solvent).

Figure: 30 TAC §115.453(a)(2)

Coating Category	Pounds of volatile organic compounds per gallon coating
Motor vehicle cavity wax	5.4
Motor vehicle sealer	5.4
Motor vehicle deadener	5.4
Motor vehicle gasket/gasket sealing material	1.7

Coating Category	Pounds of volatile organic compounds per gallon coating
Motor vehicle underbody	5.4
Motor vehicle trunk interior	5.4
Motor vehicle bedliner	1.7
Motor vehicle lubricating wax/compound	5.8

(3) The coating VOC limits for automobile and light-duty truck assembly surface coating processes must be met by applying low-VOC coatings.

Figure: 30 TAC §115.453(a)(3)

Table 1.

Assembly Coating Process	Volatile organic compounds (VOC) limit
Electrodeposition primer (EDP) operations (including application area, spray/rinse stations, and curing oven) When solids turnover ratio (R_T) ≥ 0.16	0.7 pound per gallon (lb/gal) of coating solids applied
EDP operations (including application area, spray/rinse stations, and curing oven) When $0.040 \leq R_T < 0.16$	$0.7 \times 350^{0.160-R_T}$ lb/gal of coating solids applied
EDP operations (including application area, spray/rinse stations, and curing oven) When $R_T < 0.0400$	No VOC limit
Primer-surfacer operations (including application area, flash-off area, and oven)	12.0 lb VOC/gal of solids deposited
Topcoat operations (including application area, flash-off area, and oven)	12.0 lb VOC/gal of solids deposited
Combined primer-surfacer and topcoat operations	12.0 lb VOC/gal of solids deposited
Final repair operations	4.8 lb VOC/gal of coating (minus water and exempt solvent)

Table 2.

Material	Volatile organic compounds (VOC) limit (excluding water and exempt solvent, as applied)
Automobile and light-duty truck glass-bonding primer	7.51 pounds volatile organic compounds per gallon of coating (lb VOC/gal)
Automobile and light-duty truck adhesive	2.09 lb VOC/gal of coating
Automobile and light-duty truck cavity wax	5.42 lb VOC/gal of coating
Automobile and light-duty truck sealer	5.42 lb VOC/gal of coating
Automobile and light-duty truck deadener	5.42 lb VOC/gal of coating
Automobile and light-duty truck gasket/gasket sealing material	1.67 lb VOC/gal of coating
Automobile and light-duty truck underbody coating	5.42 lb VOC/gal of coating
Automobile and light-duty truck trunk interior coating	5.42 lb VOC/gal of coating
Automobile and light-duty truck bedliner	1.67 lb VOC/gal of coating
Automobile and light-duty truck weatherstrip adhesive	6.26 lb VOC/gal of coating
Automobile and light-duty truck lubricating wax/compound	5.84 lb VOC/gal of coating

(A) The owner or operator shall determine compliance with the VOC limits for electrodeposition primer operations on a monthly weighted average in accordance with §115.455(a)(2)(D) of this title (relating to Approved Test Methods and Testing Requirements).

(B) As an alternative to the VOC limit in Table 1 of this paragraph for final repair coatings, if an owner or operator does not compile records sufficient to enable determination of the daily weighted average, compliance may be demonstrated each day by meeting a standard of 4.8 lb VOC/gal coating (minus water and exempt solvent) on an occurrence weighted average basis. Compliance with the VOC limits on an occurrence weighted average basis must be determined in accordance with the procedure specified in §115.455(a)(2) of this title.

(C) The owner or operator shall determine compliance with the VOC limits in Table 2 of this paragraph in accordance with §115.455(a)(1) or (2)(C) of this title, as appropriate.

(4) The coating VOC limits for paper, film, and foil surface coating processes must be met by applying low-VOC coatings to meet the specified VOC content limits on a pound of VOC per pound of coating basis, as delivered to the application system, or by applying coatings in combination with the operation of a vapor control system to meet the specified VOC emission limits on a pound of VOC per pound of solids basis, as delivered to the application system.

Figure: 30 TAC §115.453(a)(4)

Coating Type	Pounds of volatile organic compounds per pound coating	Pounds of volatile organic compounds per pound solids
Pressure Sensitive Tape and Label Surface Coating	0.067	0.2
Paper, Film, and Foil Surface Coating (Not including Pressure Sensitive Tape and Label)	0.08	0.4

(5) An owner or operator applying coatings in combination with the operation of a vapor control system to meet the VOC emission limits in paragraph (1) or (4) of this subsection shall use the following equation to determine the minimum overall control efficiency necessary to demonstrate equivalency. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.455 (a)(3) and (4) of this title.

Figure: 30 TAC §115.453(a)(5)

$$E = \frac{(VOC - S)}{VOC}$$

Where:

E = The required overall control efficiency, decimal fraction.

VOC = The volatile organic compounds (VOC) content of the coatings used on the coating line expressed on a solids basis in units consistent with the VOC emission limits provided in paragraphs (1) or (4) of this subsection. The owner or operator may choose to use either a daily weighted average or the maximum VOC content.

S = The applicable VOC emission limit in paragraphs (1) or (4) of this subsection expressed on a solids basis in units consistent with the units expressed in the VOC variable above.

(b) Except for the surface coating process in subsection (a)(2) of this section, the owner or operator of a surface coating process may operate a vapor control system

capable of achieving a 90% overall control efficiency as an alternative to subsection (a) of this section. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.455(a)(3) and (4) of this title. If the owner or operator complies with the overall control efficiency option under this subsection, then the owner or operator is exempt from the application system requirements of subsection (c) of this section.

(c) The owner or operator of any surface coating process subject to this division shall not apply coatings unless one of the following coating application systems is used:

- (1) electrostatic application;
- (2) high-volume, low-pressure (HVLP) spray;
- (3) flow coat;
- (4) roller coat;
- (5) dip coat;
- (6) brush coat or hand-held paint rollers; or

(7) for metal and plastic parts surface coating processes specified in §115.450(a)(3) and (4) of this title (relating to Applicability and Definitions), airless spray or air-assisted airless spray; or

(8) other coating application system capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spray. For the purpose of this requirement, the transfer efficiency of HVLP spray is assumed to be 65%. The owner or operator shall demonstrate that either the application system being used is equivalent to the transfer efficiency of an HVLP spray or that the application system being used has a transfer efficiency of at least 65%.

(d) The following work practices apply to the owner or operator of each surface coating process subject to this division.

(1) For all coating-related activities including, but not limited to, solvent storage, mixing operations, and handling operations for coatings and coating-related waste materials, the owner or operator shall:

(A) store all VOC-containing coatings and coating-related waste materials in closed containers;

- (B) minimize spills of VOC-containing coatings;
- (C) convey all coatings in closed containers or pipes;
- (D) close mixing vessels and storage containers that contain VOC coatings and other materials except when specifically in use;
- (E) clean up spills immediately; and
- (F) for automobile and light-duty truck assembly coating processes, minimize VOC emissions from the cleaning of storage, mixing, and conveying equipment.

(2) For all cleaning-related activities including, but not limited to, waste storage, mixing, and handling operations for cleaning materials, the owner or operator shall:

- (A) store all VOC-containing cleaning materials and used shop towels in closed containers;
- (B) ensure that storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials;
- (C) minimize spills of VOC-containing cleaning materials;
- (D) convey VOC-containing cleaning materials from one location to another in closed containers or pipes;
- (E) minimize VOC emissions from cleaning of storage, mixing, and conveying equipment;
- (F) clean up spills immediately; and
- (G) for metal and plastic parts surface coating processes specified in §115.450(a)(3) - (5) of this title (relating to Applicability and Definitions), minimize VOC emission from the 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) The owner or operator of automobile and light-duty truck assembly surface coating processes shall implement a work practice plan containing procedures to minimize VOC emissions from cleaning activities and purging of coating application

equipment. Properties with a work practice plan already in place to comply with requirements specified in 40 Code of Federal Regulations (CFR) §63.3094(b) (as amended through April 20, 2006 (71 FR 20464)), may incorporate procedures for minimizing non-hazardous air pollutant VOC emissions to comply with the work practice plan required by this paragraph.

(e) A surface coating process that becomes subject to subsection (a) of this section by exceeding the exemption limits in §115.451 of this title (relating to Exemptions) is subject to the provisions in subsection (a) of this section even if throughput or emissions later fall below exemption limits unless emissions are maintained at or below the controlled emissions level achieved while complying with subsection (a) of this section and one of the following conditions is met.

(1) The project that caused throughput or emission rate to fall below the exemption limits in §115.451 of this title must be authorized by a permit, permit amendment, standard permit, or permit by rule required by Chapters 106 or 116 of this title (relating to Permits by Rule; and Control of Air Pollution by Permits for New Construction or Modification, respectively). If a permit by rule is available for the project, the owner or operator shall continue to comply with subsection (a) of this section for 30 days after the filing of documentation of compliance with that permit by rule.

(2) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.

Adopted June 3, 2015

Effective June 25, 2015

§115.454. Alternate Control Requirements.

(a) For the owner or operator of a surface coating process subject to this division, alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

(b) For any surface coating process at a specific property, the executive director may approve requirements different from those in §115.453(a)(1)(C) of this title (relating to Control Requirements) based upon the executive director's determination that such requirements will result in the lowest emission rate that is technologically and economically reasonable. When the executive director makes such a determination, the executive director shall specify the date or dates by which such different requirements

must be met and shall specify any requirements to be met in the interim. If the emissions resulting from such different requirements equal or exceed 25 tons a year for a property, the determinations for that property must be reviewed every five years. Executive director approval does not necessarily constitute satisfaction of all federal requirements nor eliminate the need for approval by the United States Environmental Protection Agency in cases where specified criteria for determining equivalency have not been clearly identified in applicable sections of this chapter.

Adopted December 7, 2011

Effective December 29, 2011

§115.455. Approved Test Methods and Testing Requirements.

(a) Approved Test Methods and Testing Requirements. Compliance with the requirements in this division must be determined by applying one or more of the following test methods, as appropriate. As an alternative to the test methods in paragraph (1) of this subsection, the volatile organic compounds (VOC) content of coatings and, if necessary dilution solvent, may be determined by using analytical data from the material safety data sheet.

(1) The owner or operator shall demonstrate compliance with the VOC limits in §115.453 of this title (relating to Control Requirements), by applying the following test methods, as appropriate. Where a test method also inadvertently measures compounds that are exempt solvent an owner or operator may exclude the exempt solvent when determining compliance with a VOC limit. The methods include:

(A) Method 24 (40 Code of Federal Regulations (CFR) Part 60, Appendix A);

(B) American Society for Testing and Materials (ASTM) Test Methods D1186-06.01, D1200-06.01, D3794-06.01, D2832-69, D1644-75, and D3960-81;

(C) the United States Environmental Protection Agency (EPA) guidelines series document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings," EPA-450/3-84-019, as in effect December, 1984;

(D) additional test procedures described in 40 CFR §60.446 (as amended through October 17, 2000 (65 FR 61761)); and

(E) minor modifications to these test methods approved by the executive director.

(2) The owner or operator shall determine compliance with the VOC limits for automobile and light-duty truck assembly coating processes in §115.453(a)(3) of this title by applying the following test methods in addition to paragraph (1) of this subsection, as appropriate. The methods include:

(A) Protocol for Determining the Daily VOC Emission Rate of Automobile and Light-Duty Truck Topcoat Operations (EPA-453/R-08-002);

(B) the procedure contained in subparagraph (A) of this paragraph for determining daily compliance with the alternative emission limitation in §115.453(a)(3) of this title for final repair. Calculation of occurrence weighted average for each combination of repair coatings (primer, specific basecoat, clearcoat) must be determined by the following procedure:

(i) the relative occurrence weighted usage calculated as follows for each repair coating:

Figure: 30 TAC §115.455(a)(2)(B)(i)

$$U_P = T_P \left(\frac{100}{S_P} \right)$$

$$U_B = T_B \left(\frac{100}{S_B} \right)$$

$$U_C = T_C \left(\frac{100}{S_C} \right)$$

Where:

U_P = The relative primer usage in gallons of primer per square inch of solids applied.

T_P = The target dry film thickness of the primer in mils (0.001 inch).

S_P = The volume percentage of solids in the primer, minus water and exempt solvent.

U_B = The relative basecoat usage in gallons of basecoat per square inch of solids applied.

T_B = The target dry film thickness of the basecoat in mils (0.001 inch).

S_B = The volume percentage of solids in the basecoat, minus water and exempt solvent.

U_C = The relative clearcoat usage in gallons of clearcoat per square inch of solids applied.

T_C = The target dry film thickness of the clearcoat in mils (0.001 inch).

S_C = The volume percentage of solids in the clearcoat, minus water and exempt solvent.

(ii) the occurrence weighted average (Q) in pounds of VOC per gallon of coating (minus water and exempt solvents) as applied, for each potential combination of repair coatings calculated according to this subparagraph;

Figure: 30 TAC §115.455(a)(2)(B)(ii)

$$Q = \frac{(U_P \times V_P) + (U_B \times V_B) + (U_C \times V_C)}{(U_P) + (U_B) + (U_C)}$$

Where:

Q = The occurrence weighted average in pounds of volatile organic compounds (VOC) per gallon of coating (minus water and exempt solvent) as applied.

U_P = The relative primer usage in gallons of primer per square inch of solids applied.

V_P = The VOC content of the primer in pounds per gallon.

U_B = The relative basecoat usage in gallons of basecoat per square inch of solids applied.

V_B = The VOC content of the basecoat in pounds per gallon.

U_C = The relative clearcoat usage in gallons of clearcoat per square inch of solids applied.

V_C = The VOC content of the clearcoat in pounds per gallon.

(C) the procedure contained in 40 CFR Part 63, Subpart PPPP, Appendix A (as amended through April 24, 2007 (72 FR 20237)), for reactive adhesives; and

(D) the procedure contained in 40 CFR Part 60, Subpart MM (as amended October 17, 2000 (65 FR 61760)) for determining the monthly weighted average for electrodeposition primer.

(3) The owner or operator shall determine compliance with the vapor control system requirements in §115.453 of this title by applying the following test methods, as appropriate:

(A) Methods 1 - 4 (40 CFR Part 60, Appendix A) for determining flow rates, as necessary;

(B) Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(C) Method 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(D) additional performance test procedures described in 40 CFR §60.444 (as amended through October 18, 1983 (48 FR 48375)); or

(E) minor modifications to these test methods approved by the executive director.

(4) The owner or operator of a surface coating process subject to §115.453(a)(5) or (b) of this title shall measure the capture efficiency using applicable procedures outlined in 40 CFR §52.741, Subpart O, Appendix B (as amended through October 21, 1996 (61 FR 54559)). These procedures are: Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure; Procedure L - VOC Input; Procedure G.2 - Captured VOC Emissions (Dilution Technique); Procedure F.1 - Fugitive VOC Emissions from Temporary Enclosures; and Procedure F.2 - Fugitive VOC Emissions from Building Enclosures.

(A) The following exemptions apply to capture efficiency testing requirements.

(i) If a source installs a permanent total enclosure that meets the specifications of Procedure T and that directs all VOC to a control device, then the capture efficiency is assumed to be 100%, and the source is exempted from capture efficiency testing requirements. This does not exempt the source from performance of any control device efficiency testing that may be required. In addition, a source must demonstrate all criteria for a permanent total enclosure are met during testing for control efficiency.

(ii) If a source uses a vapor control system designed to collect and recover VOC (e.g., carbon adsorption system), an explicit measurement of capture efficiency is not necessary if the following conditions are met. The overall control of the system can be determined by directly comparing the input liquid VOC to the recovered liquid VOC. The general procedure for use in this situation is given in 40 CFR §60.433 (as amended through October 17, 2000 (65 FR 61761)), with the following additional restrictions.

(I) The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average. This verification must be done within 72 hours following each 24-hour period of the 30-day period.

(II) The solvent recovery system (i.e., capture and control system) must be dedicated to a single process line (e.g., one process line venting to a carbon adsorber system); or if the solvent recovery system controls multiple process lines, the source must be able to demonstrate that the overall control (i.e., the total recovered solvent VOC divided by the sum of liquid VOC input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.

(B) The capture efficiency must be calculated using one of the following protocols referenced. Any affected source must use one of these protocols, unless a suitable alternative protocol is approved by the executive director and the EPA.

(i) Gas/gas method using temporary total enclosure (TTE). The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.455(a)(4)(B)(i)

$$CE = \frac{G_w}{(G_w + F_w)}$$

Where:

- CE = The capture efficiency, decimal fraction.
G_w = The mass of volatile organic compounds (VOC) captured and delivered to control device using a temporary total enclosure (TTE) (use Procedure G.2).
F_w = The mass of fugitive VOC that escapes from a TTE (use Procedure F.1).

(ii) Liquid/gas method using TTE. The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.455(a)(4)(B)(ii)

$$CE = \frac{(L - F)}{L}$$

Where:

- CE = The capture efficiency, decimal fraction.
L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).

F = The mass of fugitive VOC that escapes from a temporary total enclosure (TTE) (use Procedure F.1).

(iii) Gas/gas method using the building or room enclosure (BE) in which the affected source is located and in which the mass of VOC captured and delivered to a control device and the mass of fugitive VOC that escapes from BE are measured while operating only the affected facility. All fans and blowers in the BE must be operating as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.455(a)(4)(B)(iii)

$$CE = \frac{G}{(G + F_B)}$$

Where:

CE = The capture efficiency, decimal fraction.

G = The mass of volatile organic compounds (VOC) captured and delivered to a control device (use Procedure G.2).

F_B = The mass of fugitive VOC that escapes from building enclosure (use Procedure F.2).

(iv) Liquid/gas method using a BE in which the mass of liquid VOC input to process and the mass of fugitive VOC that escapes from BE are measured while operating only the affected facility. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.455(a)(4)(B)(iv)

$$CE = \frac{L}{F_B - L}$$

Where:

CE = The capture efficiency, decimal fraction.

L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).

F_B = The mass of fugitive VOC that escapes from building or room enclosure (use Procedure F.2).

(C) The operating parameters selected for monitoring of the capture system for compliance with the requirements in §115.458(a) of this title (relating to Monitoring and Recordkeeping Requirements) must be monitored and recorded during

the initial capture efficiency test and thereafter during facility operation. The executive director may require a new capture efficiency test if the operating parameter values change significantly from those recorded during the initial capture efficiency test.

(5) Test methods other than those specified in paragraphs (1) - (4) of this subsection may be used if approved by the executive director and validated by Method 301 (40 CFR Part 63, Appendix A). For the purposes of this paragraph, substitute "executive director" each place that Method 301 references "administrator."

(b) Inspection requirements. The owner or operator of each surface coating process subject to §115.453 of this title shall provide samples, without charge, upon request by authorized representatives of the executive director, the EPA, or any local air pollution agency with jurisdiction. The representative or inspector requesting the sample will determine the amount of coating needed to test the sample to determine compliance.

Adopted December 7, 2011

Effective December 29, 2011

§115.458. Monitoring and Recordkeeping Requirements.

(a) Monitoring requirements. The following monitoring requirements apply to the owner or operator of a surface coating process subject to this division that uses a vapor control system in accordance with §115.453 of this title (relating to Control Requirements). The owner or operator shall install and maintain monitors to accurately measure and record operational parameters of all required control devices to ensure the proper functioning of those devices in accordance with design specifications, including:

(1) continuous monitoring of the exhaust gas temperature immediately downstream of direct-flame incinerators or the gas temperature immediately upstream and downstream of any catalyst bed;

(2) the total amount of volatile organic compounds (VOC) recovered by carbon adsorption or other solvent recovery systems during a calendar month;

(3) continuous monitoring of carbon adsorption bed exhaust; and

(4) appropriate operating parameters for capture systems and control devices other than those specified in paragraphs (1) - (3) of this subsection.

(b) Recordkeeping requirements. The following recordkeeping requirements apply to the owner or operator of a surface coating process subject to this division.

(1) The owner or operator shall maintain records of the testing data or the material safety data sheets (MSDS) in accordance with the requirements in §115.455(a) of this title (relating to Approved Test Methods and Testing Requirements). The MSDS must document relevant information regarding each coating and solvent available for use in the affected surface coating processes including the VOC content, composition, solids content, and solvent density. Records must be sufficient to demonstrate continuous compliance with the VOC limits in §115.453(a) of this title.

(2) Records must be maintained of the quantity and type of each coating and solvent consumed during the specified averaging period if any of the coatings, as delivered to the coating application system, exceed the applicable VOC limits. Such records must be sufficient to calculate the applicable weighted average of VOC content for all coatings.

(3) As an alternative to the recordkeeping requirements of paragraph (2) of this subsection, the owner or operator that qualifies for exemption under §115.451(a)(3) of this title (relating to Exemptions) may maintain records of the total gallons of coating and solvent used in each month and total gallons of coating and solvent used in the previous 12 months.

(4) The owner or operator shall maintain, on file, the capture efficiency protocol submitted under §115.455(a)(4) of this title. The owner or operator shall submit all results of the test methods and capture efficiency protocols to the executive director within 60 days of the actual test date. The owner or operator shall maintain records of the capture efficiency operating parameter values on-site for a minimum of one year. If any changes are made to capture or control equipment, the owner or operator is required to notify the executive director in writing within 30 days of these changes and a new capture efficiency or control device destruction or removal efficiency test may be required.

(5) The owner or operator claiming an exemption in §115.451 of this title shall maintain records sufficient to demonstrate continuous compliance with the applicable exemption criteria.

(6) Records must be maintained of any testing conducted in accordance with the provisions specified in §115.455(a) of this title.

(7) Records must be maintained a minimum of two years and be made available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution agency with jurisdiction.

§115.459. Compliance Schedules.

(a) The owner or operator of a surface coating process in Brazoria, Chambers, Collin, Dallas, Denton, Ellis, Fort Bend, Galveston, Harris, Johnson, Kaufman, Liberty, Montgomery, Parker, Rockwall, Tarrant, and Waller Counties subject to this division shall comply with the requirements of this division no later than March 1, 2013.

(b) The owner or operator of a surface coating process in Wise County shall comply with the requirements in this division as soon as practicable, but no later than January 1, 2017.

(c) The owner or operator of a surface coating process that becomes subject to this division on or after the applicable compliance date of this section shall comply with the requirements in this division no later than 60 days after becoming subject.

(d) Upon the date the commission publishes notice in the Texas Register that the Wise County nonattainment designation for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard is no longer legally effective, the owner or operator of each surface coating process in Wise County is not required to comply with any of the requirements in this division.

Adopted June 3, 2015

Effective June 25, 2015

SUBCHAPTER E: SOLVENT-USING PROCESSES
DIVISION 6: INDUSTRIAL CLEANING SOLVENTS
§§115.460, 115.461, 115.463 - 115.465, 115.468, 115.469
Effective June 25, 2015

§115.460. Applicability and Definitions.

(a) Applicability. Except as specified in §115.461 of this title (relating to Exemptions), the requirements in this division apply to solvent cleaning operations in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions). Residential cleaning and janitorial cleaning are not considered solvent cleaning operations.

(b) Definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, or 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply in this division unless the context clearly indicates otherwise.

(1) Aerosol can--A hand-held, non-refillable container that expels pressurized product by means of a propellant-induced force.

(2) Electrical and electronic components--Components and assemblies of components that generate, convert, transmit, or modify electrical energy. Electrical and electronic components include, but are not limited to, wires, windings, stators, rotors, magnets, contacts, relays, printed circuit boards, printed wire assemblies, wiring boards, integrated circuits, resistors, capacitors, and transistors. Cabinets that house electrical and electronic components are not considered electrical and electronic components.

(3) Janitorial cleaning--The cleaning of building or building components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, bathrooms, furnishings, and exterior surfaces of office equipment, excluding the cleaning of work areas where manufacturing or repair activity is performed.

(4) Magnet wire--Wire used in electromagnetic field application in electrical machinery and equipment such as transformers, motors, generators, and magnetic tape recorders.

(5) Magnet wire coating operation--The process of applying insulation coatings such as varnish or enamel on magnet wire where wire is continuously drawn through a coating applicator.

(6) Medical device--An instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar article, including any component or accessory that is, intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of diseases; intended to affect the structure or any function of the body; or defined in the National Formulary or the United States Pharmacopoeia or any supplement to it.

(7) Medical device and pharmaceutical preparation operations--Medical devices, pharmaceutical products, and associated manufacturing and product handling equipment and material, work surfaces, maintenance tools, and room surfaces that are subject to the United States Federal Drug Administration current Good Manufacturing/Laboratory Practice, or Center for Disease Control or National Institute of Health guidelines for biological disinfection of surfaces.

(8) Polyester resin operation--The fabrication, rework, repair, or touch-up of composite products for commercial, military, or industrial uses by mixing, pouring, manual application, molding, impregnating, injecting, forming, spraying, pultrusion, filament winding, or centrifugally casting with polyester resins.

(9) Precision optics--The optical elements used in electro-optical devices that are designed to sense, detect, or transmit light energy, including specific wavelengths of light energy and changes of light energy levels.

(10) Solvent-- A volatile organic compound-containing liquid used to perform solvent cleaning operations.

(11) Solvent cleaning operation--The removal of uncured adhesives, inks, and coatings; and contaminants such as dirt, soil, oil, and grease from parts, products, tools, machinery, equipment, vessels, floors, walls, and other work production-related areas using a solvent.

(12) Volatile organic compound (VOC) composite partial pressure--The sum of the partial pressures of the compounds that meet the definition of VOC in §101.1 of this title (relating to Definitions). The VOC composite partial pressure is calculated as follows.

Figure: 30 TAC §115.460(b)(12)

$$PP_c = \sum_{i=1}^n \frac{\left(\frac{W_i}{MW_i} \times VP_i \right)}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

PP_c = The volatile organic compound (VOC) composite partial vapor pressure of a solution at 20 degrees Celsius in millimeters of mercury (mmHg)

W_i = The weight of VOC_i in grams (g)

MW_i = The molecular weight of VOC_i in g per g-mole

VP_i = The vapor pressure of VOC_i at 20 degrees Celsius in mmHg

W_w = The weight of water in g

MW_w = The molecular weight of water in g per g-mole

W_e = The weight of non-water exempt compound e in g

MW_e = The molecular weight of non-water exempt compound e in g per g-mole

Adopted June 3, 2015

Effective June 25, 2015

§115.461. Exemptions.

(a) Solvent cleaning operations located on a property with total actual volatile organic compounds (VOC) emissions of less than 3.0 tons per calendar year from all cleaning solvents, when uncontrolled, are exempt from the requirements of this division, except as specified in §115.468(b)(2) of this title (relating to Monitoring and Recordkeeping Requirements). When calculating the VOC emissions, solvents used for solvent cleaning operations that are exempt from this division under subsections (b) - (e) of this section are excluded.

(b) The owner or operator of any process or operation subject to another division of this chapter that specifies solvent cleaning operation requirements related to that process or operation is exempt from the requirements in this division.

(c) A solvent cleaning operation is exempt from this division if:

(1) the process or operation that the solvent cleaning operation is associated with is subject to another division in this chapter; and

(2) the VOC emissions from the solvent cleaning operation are controlled in accordance with an emission specification or control requirement of the division that the process or operation is subject to.

(d) The following are exempt from the VOC limits in §115.463(a) of this title (relating to Control Requirements):

(1) electrical and electronic components;

- (2) precision optics;
- (3) numismatic dies;
- (4) resin mixing, molding, and application equipment;
- (5) coating, ink, and adhesive mixing, molding, and application equipment;
- (6) stripping of cured inks, cured adhesives, and cured coatings;
- (7) research and development laboratories;
- (8) medical device or pharmaceutical preparation operations;
- (9) performance or quality assurance testing of coatings, inks, or adhesives;
- (10) architectural coating manufacturing and application operations;
- (11) magnet wire coating operations;
- (12) semiconductor wafer fabrication;
- (13) coating, ink, resin, and adhesive manufacturing;
- (14) polyester resin operations;
- (15) flexographic and rotogravure printing processes;
- (16) screen printing operations; and
- (17) digital printing operations.

(e) Cleaning solvents supplied in aerosol cans are exempt from the VOC limits in §115.463(a) of this title if total aerosol use for the property is less than 160 fluid ounces per day.

Adopted June 3, 2015

Effective June 25, 2015

§115.463. Control Requirements.

(a) The owner or operator shall limit the volatile organic compounds (VOC) content of cleaning solutions to:

(1) 0.42 pound of VOC per gallon of solution (lb VOC/gal solution), as applied; or

(2) limit the composite partial vapor pressure of the cleaning solution to 8.0 millimeters of mercury at 20 degrees Celsius (68 degrees Fahrenheit).

(b) As an alternative to subsection (a) of this section, the owner or operator shall operate a vapor control system capable of achieving an overall control efficiency of 85% by mass. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.465 of this title (relating to Approved Test Methods and Testing Requirements).

(c) The owner or operator of a solvent cleaning operation shall implement the following work practices during the handling, storage, and disposal of cleaning solvents and shop towels:

(1) cover open containers and used applicators;

(2) minimize air circulation around solvent cleaning operations;

(3) properly dispose of used solvent and shop towels; and

(4) implement equipment practices that minimize emissions (e.g. maintaining cleaning equipment to repair solvent leaks).

(d) A solvent cleaning operation that becomes subject to subsection (a) of this section by exceeding the exemption limits in §115.461 of this title (relating to Exemptions) is subject to the provisions in subsection (a) of this section even if throughput or emissions later fall below exemption limits unless emissions are maintained at or below the controlled emissions level achieved while complying with subsection (a) of this section and one of the following conditions is met.

(1) The project that caused throughput or emission rate to fall below the exemption limits in §115.461 of this title must be authorized by a permit, permit amendment, standard permit, or permit by rule required by Chapter 116 or Chapter 106 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification; and Permits by Rule, respectively). If a permit by rule is available for the project, the owner or operator shall continue to comply with subsection (a) of this section for 30 days after the filing of documentation of compliance with that permit by rule.

(2) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.

Adopted December 7, 2011

Effective December 29, 2011

§115.464. Alternate Control Requirements.

For solvent cleaning operations subject to §115.463 of this title (relating to Control Requirements), alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

Adopted December 7, 2011

Effective December 29, 2011

§115.465. Approved Test Methods and Testing Requirements.

The owner or operator shall demonstrate compliance with the control requirements in §115.463 of this title (relating to Control Requirements) by applying the following test methods, as appropriate.

(1) Compliance with the volatile organic compound (VOC) limits in §115.463(a) of this title must be determined by the following methods, as applicable:

(A) Method 24 (40 Code of Federal Regulations (CFR) Part 60, Appendix A);

(B) American Society for Testing and Materials Method D2879, Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isotenoscope to demonstrate compliance with §115.463(a)(2) of this title;

(C) using standard reference texts for the true vapor pressure of each VOC component to demonstrate compliance with §115.463(a)(2) of this title; or

(D) using analytical data from the cleaning solvent supplier or manufacturer's material safety data sheet.

(2) The owner or operator subject to §115.463(b) of this title shall measure the capture efficiency using applicable procedures outlined in 40 CFR §52.741, Subpart

O, Appendix B (as amended through October 21, 1996 (61 FR 54559)). These procedures are: Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure; Procedure L - VOC Input; Procedure G.2 - Captured VOC Emissions (Dilution Technique); Procedure F.1 - Fugitive VOC Emissions from Temporary Enclosures; and Procedure F.2-Fugitive VOC Emissions from Building Enclosures.

(A) The following exemptions apply to capture efficiency testing requirements.

(i) If a source installs a permanent total enclosure that meets the specifications of Procedure T and that directs all VOC to a control device, then the capture efficiency is assumed to be 100%, and the source is exempted from capture efficiency testing requirements. This does not exempt the source from performance of any control device efficiency testing that may be required. In addition, a source must demonstrate all criteria for a permanent total enclosure are met during testing for control efficiency.

(ii) If a source uses a vapor control system designed to collect and recover VOC (e.g., carbon adsorption system), an explicit measurement of capture efficiency is not necessary if the following conditions are met. The overall control of the system can be determined by directly comparing the input liquid VOC to the recovered liquid VOC. The general procedure for use in this situation is given in 40 CFR §60.433 (as amended through October 17, 2000 (65 FR 61761)), with the following additional restrictions.

(I) The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average. This verification must be done within 72 hours following each 24-hour period of the 30-day period.

(II) The solvent recovery system (i.e., capture and control system) must be dedicated to a single process line (e.g., one process line venting to a carbon adsorber system) or if the solvent recovery system controls multiple process lines, the source must be able to demonstrate that the overall control (i.e., the total recovered solvent VOC divided by the sum of liquid VOC input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.

(B) The capture efficiency must be calculated using one of the following protocols referenced. Any affected source must use one of these protocols, unless a suitable alternative protocol is approved by the executive director and the United States Environmental Protection Agency (EPA).

(i) Gas/gas method using temporary total enclosure (TTE). The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.465(2)(B)(i)

$$CE = \frac{GW}{(GW + FW)}$$

Where:

CE = The capture efficiency, decimal fraction.

GW = The mass of volatile organic compounds (VOC) captured and delivered to control device using a temporary total enclosure (TTE) (use Procedure G.2).

FW = The mass of fugitive VOC that escapes from a TTE (use Procedure F.1).

(ii) Liquid/gas method using TTE. The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.465(2)(B)(ii)

$$CE = \frac{(L - F)}{L}$$

Where:

CE = The capture efficiency, decimal fraction.

L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).

F = The mass of fugitive VOC that escapes from a temporary total enclosure (use Procedure F.1).

(iii) Gas/gas method using the building or room enclosure (BE) in which the affected source is located and in which the mass of VOC captured and delivered to a control device and the mass of fugitive VOC that escapes from the BE are measured while operating only the affected facility. All fans and blowers in the BE must be operating as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.465(2)(B)(iii)

$$CE = \frac{G}{(G + F_B)}$$

Where:

CE = The capture efficiency, decimal fraction.

G = The mass of volatile organic compounds (VOC) captured and delivered to a control device (use Procedure G.2).

F_B = The mass of fugitive VOC that escapes from building or room enclosure (use Procedure F.2).

(iv) Liquid/gas method using a BE in which the mass of liquid VOC input to process and the mass of fugitive VOC that escapes from the BE are measured while operating only the affected facility. All fans and blowers in the BE must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.465(2)(B)(iv)

$$CE = \frac{L}{F_B - L}$$

Where:

CE = The capture efficiency, decimal fraction.

L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).

F_B = The mass of fugitive VOC that escapes from a building or room enclosure (use Procedure F.2).

(C) The operating parameters selected for monitoring of the capture system for compliance with the requirements in §115.468(a) of this title (relating to Monitoring and Recordkeeping Requirements) must be monitored and recorded during the initial capture efficiency testing and thereafter during facility operation. The executive director may require a new capture efficiency test if the operating parameter values change significantly from those recorded during the initial capture efficiency test.

(3) In addition to the requirements of paragraph (2) of this section, the owner or operator shall determine compliance with §115.463(b) of this title by applying the following test methods, as appropriate:

(A) Methods 1 - 4 (40 CFR Part 60, Appendix A) for determining flow rates, as necessary;

(B) Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(C) Method 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis; and

(D) additional performance test procedures described in 40 CFR §60.444 (as amended through October 18, 1983 (48 FR 48375)).

(4) Minor modifications to the methods in paragraphs (1) - (3) of this section may be approved by the executive director. Methods other than those specified in paragraphs (1) - (3) of this section may be used if approved by the executive director and validated using Method 301 (40 CFR Part 63, Appendix A). For the purposes of this paragraph, substitute "executive director" each place that Method 301 references "administrator."

Adopted December 7, 2011

Effective December 29, 2011

§115.468. Monitoring and Recordkeeping Requirements.

(a) Monitoring requirements. The following monitoring requirements apply to the owner or operator of a solvent cleaning operation subject to this division that uses a vapor control system in accordance with §115.463(b) of this title (relating to Control Requirements). The owner or operator shall install and maintain monitors to accurately measure and record operational parameters of all required control devices, as necessary, to ensure the proper functioning of those devices in accordance with design specifications, including:

(1) continuous monitoring of the exhaust gas temperature immediately downstream of direct-flame incinerators or the gas temperature immediately upstream and downstream of any catalyst bed;

(2) the total amount of volatile organic compounds (VOC) recovered by carbon adsorption or other solvent recovery systems during a calendar month;

(3) continuous monitoring of carbon adsorption bed exhaust; and

(4) appropriate operating parameters for vapor control systems other than those specified in paragraphs (1) - (3) of this subsection.

(b) Recordkeeping requirements. The following recordkeeping requirements apply to the owner or operator of a solvent cleaning operation subject to this division.

(1) The owner or operator shall maintain records of the testing data, the material safety data sheet, or documentation of the standard reference texts used to determine the true vapor pressure of each VOC component, in accordance with the requirements in §115.465(1) of this title (relating to Approved Test Methods and Testing Requirements). The concentration of all VOC used to prepare the cleaning solution and, if diluted prior to use, the proportions that each of these materials is used must be recorded. Records must be sufficient to demonstrate continuous compliance with the VOC limits in §115.463(a) of this title.

(2) The owner or operator claiming an exemption in §115.461 of this title (relating to Exemptions) shall maintain records sufficient to demonstrate continuous compliance with the applicable exemption criteria.

(3) The owner or operator claiming exemption from this division in accordance with §115.461(c) of this title shall maintain records indicating the applicable division the process or operation is subject to as specified in §115.461(c)(1) of this title and the control requirements or emission specifications used to control the VOC emissions from the solvent cleaning operation as specified in §115.461(c)(2) of this title. The owner or operator shall also comply with the applicable recordkeeping requirements from the division the process or operation is subject to sufficient to demonstrate that the VOC emissions from the solvent cleaning operation are controlled in accordance with the control requirements or emission specifications of that division.

(4) The owner or operator shall maintain records of any testing conducted in accordance with the provisions specified in §115.465(2) - (4) of this title.

(5) Records must be maintained a minimum of two years and be made available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution agency with jurisdiction.

Adopted December 7, 2011

Effective December 29, 2011

§115.469. Compliance Schedules.

(a) The owner or operator of a solvent cleaning operation in Brazoria, Chambers, Collin, Dallas, Denton, Ellis, Fort Bend, Galveston, Harris, Johnson, Kaufman, Liberty, Montgomery, Parker, Rockwall, Tarrant, and Waller Counties shall comply with the requirements in this division no later than March 1, 2013.

(b) The owner or operator of a solvent cleaning operation in Wise County shall comply with the requirements in this division as soon as practicable, but no later than January 1, 2017.

(c) The owner or operator of a solvent cleaning operation that becomes subject to this division on or after the applicable compliance date in this section shall comply with the requirements in this division no later than 60 days after becoming subject.

(d) Upon the date the commission publishes notice in the *Texas Register* that the Wise County nonattainment designation for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard is no longer legally effective, the owner or operator of each solvent cleaning operation in Wise County is not required to comply with any of the requirements in this division.

Adopted June 3, 2015

Effective June 25, 2015

SUBCHAPTER E: SOLVENT-USING PROCESSES
DIVISION 7: MISCELLANEOUS INDUSTRIAL ADHESIVES
§§115.470, 115.471, 115.473 - 115.475, 115.478, 115.479
Effective June 25, 2015

§115.470. Applicability and Definitions.

(a) **Applicability.** Except as specified in §115.471 of this title (relating to Exemptions), the requirements in this division apply to the owner or operator of a manufacturing operation using adhesives or adhesive primers for any of the application processes specified in §115.473(a) of this title (relating to Control Requirements) in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions). Adhesives or adhesive primers applied in the field (e.g., construction jobs in the field) are not subject to this division.

(b) **Definitions.** Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, or 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply in this division unless the context clearly indicates otherwise.

(1) **Acrylonitrile-butadiene-styrene or ABS welding**--Any process to weld acrylonitrile-butadiene-styrene pipe.

(2) **Adhesive**--Any chemical substance applied for the purpose of bonding two surfaces together other than by mechanical means.

(3) **Adhesive primer**--Any product intended by the manufacturer for application to a substrate, prior to the application of an adhesive, to provide a bonding surface.

(4) **Aerosol adhesive or adhesive primer**--An adhesive or adhesive primer packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for handheld application without the need for ancillary hoses or spray equipment.

(5) **Aerospace component**--Any fabricated part, processed part, assembly of parts, or completed unit of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles. This definition includes electronic components.

(6) **Application process**--A series of one or more application systems and any associated drying area or oven where an adhesive or adhesive primer is applied, dried, or cured. An application process ends at the point where the adhesive is dried or cured, or prior to any subsequent application of a different adhesive. It is not necessary for an application process to have an oven or flash-off area.

(7) **Application system**--Devices or equipment designed for the purpose of applying an adhesive or adhesive primer to a surface. The devices may include, but are not be limited to, brushes, sprayers, flow coaters, dip tanks, rollers, and extrusion coaters.

(8) **Ceramic tile installation adhesive**--Any adhesive intended by the manufacturer for use in the installation of ceramic tiles.

(9) **Chlorinated polyvinyl chloride plastic or CPVC plastic welding**--A polymer of the vinyl chloride monomer that contains 67% chlorine and is normally identified with a chlorinated polyvinyl chloride marking.

(10) **Chlorinated polyvinyl chloride welding or CPVC welding**--An adhesive labeled for welding of chlorinated polyvinyl chloride.

(11) **Contact adhesive**--An adhesive:

(A) designed for application to both surfaces to be bonded together;

(B) allowed to dry before the two surfaces are placed in contact with each other;

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

(D) does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces; and

(E) does not include rubber cements that are primarily intended for use on paper substrates or vulcanizing fluids that are designed and labeled for tire repair only.

(12) **Cove base**--A flooring trim unit, generally made of vinyl or rubber, having a concave radius on one edge and a convex radius on the opposite edge that is used in forming a junction between the bottom wall course and the floor or to form an inside corner.

(13) **Cove base installation adhesive**--Any adhesive intended by the manufacturer to be used for the installation of cove base or wall base on a wall or vertical surface at floor level.

(14) **Cyanoacrylate adhesive**--Any adhesive with a cyanoacrylate content of at least 95% by weight.

(15) **Daily weighted average**--The total weight of volatile organic compounds (VOC) emissions from all adhesives or adhesive primers subject to the same VOC content limit in §115.473(a) of this title (relating to Control Requirements), divided by the total volume of those adhesives or adhesive primers (minus water and exempt solvent) delivered to the application system each day. Adhesives or adhesive primers subject to different emission standards in §115.473(a) of this title must not be combined for purposes of calculating the daily weighted average. In addition, determination of compliance is based on each adhesive or adhesive primer application process.

(16) **Ethylene propylenediene monomer (EPDM) roof membrane**--A prefabricated single sheet of elastomeric material composed of ethylene propylenediene monomer and that is field-applied to a building roof using one layer or membrane material.

(17) **Flexible vinyl**--Non-rigid polyvinyl chloride plastic with a 5.0% by weight plasticizer content.

(18) **Indoor floor covering installation adhesive**--Any adhesive intended by the manufacturer for use in the installation of wood flooring, carpet, resilient tile, vinyl tile, vinyl-backed carpet, resilient sheet and roll, or artificial grass. Adhesives used to install ceramic tile and perimeter-bonded sheet flooring with vinyl backing onto a non-porous substrate, such as flexible vinyl, are excluded from this definition.

(19) **Laminate**--A product made by bonding together two or more layers of material.

(20) **Metal to urethane/rubber molding or casting adhesive**--Any adhesive intended by the manufacturer to bond metal to high density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products such as rollers for computer printers or other paper handling equipment.

(21) **Motor vehicle adhesive**--An adhesive, including glass-bonding adhesive, used in a process that is not an automobile or light-duty truck assembly

coating process, applied for the purpose of bonding two vehicle surfaces together without regard to the substrates involved.

(22) **Motor vehicle glass-bonding primer**--A primer, used in a process that is not an automobile or light-duty truck assembly coating process, applied to windshield or other glass, or to body openings, to prepare the glass or body opening for the application of glass-bonding adhesives or the installation of adhesive-bonded glass. Motor vehicle glass-bonding primer includes glass-bonding/cleaning primers that perform both functions (cleaning and priming of the windshield or other glass, or body openings) prior to the application of adhesive or the installation of adhesive-bonded glass.

(23) **Motor vehicle weatherstrip adhesive**--An adhesive, used in a process that is not an automobile or light-duty truck assembly coating process, applied to weatherstripping materials for the purpose of bonding the weatherstrip material to the surface of the vehicle.

(24) **Multipurpose construction adhesive**--Any adhesive intended by the manufacturer for use in the installation or repair of various construction materials, including but not limited to drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile, and acoustical tile.

(25) **Outdoor floor covering installation adhesive**--Any adhesive intended by the manufacturer for use in the installation of floor covering that is not in an enclosure and that is exposed to ambient weather conditions during normal use.

(26) **Panel installation**--The installation of plywood, pre-decorated hardboard or tileboard, fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

(27) **Perimeter bonded sheet flooring installation**--The installation of sheet flooring with vinyl backing onto a nonporous substrate using an adhesive designed to be applied only to a strip of up to four inches wide around the perimeter of the sheet flooring.

(28) **Plastic solvent welding adhesive**--Any adhesive intended by the manufacturer for use to dissolve the surface of plastic to form a bond between mating surfaces.

(29) **Plastic solvent welding adhesive primer**--Any primer intended by the manufacturer for use to prepare plastic substrates prior to bonding or welding.

(30) **Plastic foam**--Foam constructed of plastics.

(31) **Plastics**--Synthetic materials chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders, or reinforcers and are capable of being molded, extruded, cast into various shapes and films, or drawn into filaments.

(32) **Polyvinyl chloride plastic or PVC plastic**--A polymer of the chlorinated vinyl monomer that contains 57% chlorine.

(33) **Polyvinyl chloride welding adhesive or PVC welding adhesive**--Any adhesive intended by the manufacturer for use in the welding of polyvinyl chloride plastic pipe.

(34) **Porous material**--A substance that has tiny openings, often microscopic, in which fluids may be absorbed or discharged, including, but not limited to, paper and corrugated paperboard. For the purposes of this definition, porous material does not include wood.

(35) **Pounds of volatile organic compounds (VOC) per gallon of adhesive (minus water and exempt solvent)**--The basis for content limits for application processes that can be calculated by the following equation:

Figure: 30 TAC §115.470(b)(35)

$$\begin{aligned} &\text{Pounds of volatile organic compounds (VOC) per gallon of adhesive (minus water and exempt solvent)} \\ &= \frac{W_V}{(V_M - V_W - V_{ES})} \end{aligned}$$

Where:

W_V = The weight of VOC contained in V_M gallons of adhesive or adhesive primer measured in pounds.

V_M = The volume of adhesive or adhesive primer, generally assumed to be one gallon.

V_W = The volume of water contained in V_M gallons of adhesive or adhesive primer measured in gallons.

V_{ES} = The volume of exempt solvent contained in V_M gallons of adhesive or adhesive primer measured in gallons.

(36) **Pounds of volatile organic compounds (VOC) per gallon of solids**--The basis for content limits for application processes that can be calculated by the following equation:

Figure: 30 TAC §115.470(b)(36)

$$\text{Pounds of volatile organic compounds (VOC) per gallon of solids} = \frac{W_V}{V_M - V_V - V_W - V_{ES}}$$

Where:

W_V = The weight of VOC contained in V_M gallons of adhesive or adhesive primer measured in pounds.

V_M = The volume of adhesive or adhesive primer, generally assumed to be one gallon.

V_V = The volume of VOC contained in V_M gallons of adhesive or adhesive primer measured in gallons.

V_W = The volume of water contained in V_M gallons of adhesive or adhesive primer measured in gallons.

V_{ES} = The volume of exempt solvent contained in V_M gallons of adhesive or adhesive primer measured in gallons.

(37) **Reinforced plastic composite**--A composite material consisting of plastic reinforced with fibers.

(38) **Rubber**--Any natural or manmade rubber substrate, including, but not limited to, styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene, and ethylene propylene diene terpolymer.

(39) **Sheet rubber lining installation**--The process of applying sheet rubber liners by hand to metal or plastic substrates to protect the underlying substrate from corrosion or abrasion. These processes also include laminating sheet rubber to fabric by hand.

(40) **Single-ply roof membrane**--A prefabricated single sheet of rubber, normally ethylene propylenediene terpolymer, that is field-applied to a building roof using one layer of membrane material. For the purposes of this definition, single-ply roof membrane does not include membranes prefabricated from ethylene propylenediene monomer.

(41) **Single-ply roof membrane installation and repair adhesive**--Any adhesive labeled for use in the installation or repair of single-ply roof membrane. Installation includes, as a minimum, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes, and ducts that protrude through the membrane. Repair includes gluing the edges of torn membrane together, attaching a patch over a hole, and reapplying flashings to vents, pipes, or ducts installed through the membrane.

(42) **Single-ply roof membrane adhesive primer**--Any primer labeled for use to clean and promote adhesion of the single-ply roof membrane seams or splices prior to bonding.

(43) **Structural glazing**--A process that includes the application of adhesive to bond glass, ceramic, metal, stone, or composite panels to exterior building frames.

(44) **Subfloor installation**--The installation of subflooring material over floor joists, including the construction of any load-bearing joists. Subflooring is covered by a finish surface material.

(45) **Thin metal laminating adhesive**--Any adhesive intended by the manufacturer for use in bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) is less than 0.25 mil.

(46) **Tire repair**--A process that includes expanding a hole, tear, fissure, or blemish in a tire casing by grinding or gouging, applying adhesive, and filling the hole or crevice with rubber.

(47) **Undersea-based weapon system components**--The fabrication of parts, assembly of parts or completed units of any portion of a missile launching system used on undersea ships.

(48) **Waterproof resorcinol glue**--A two-part resorcinol-resin-based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

Adopted December 7, 2011

Effective December 29, 2011

§115.471. Exemptions.

(a) The owner or operator of application processes located on a property with actual combined emissions of volatile organic compounds (VOC) less than 3.0 tons per calendar year, when uncontrolled, from all adhesives, adhesive primers, and solvents used during related cleaning operations, is exempt from the requirements of this division, except as specified in §115.478(b)(2) of this title (relating to Monitoring and Recordkeeping Requirements). When calculating the VOC emissions, adhesives and adhesive primers that are exempt under subsections (b) and (c) of this section are excluded.

(b) The following application processes are exempt from the VOC limits in §115.473(a) of this title (relating to Control Requirements) and the application system requirements in §115.473(b) of this title:

(1) adhesives or adhesive primers being tested or evaluated in any research and development, quality assurance, or analytical laboratory;

(2) adhesives or adhesive primers used in the assembly, repair, or manufacture of aerospace components or undersea-based weapon system components;

(3) adhesives or adhesive primers used in medical equipment manufacturing operations;

(4) cyanoacrylate adhesive application processes;

(5) aerosol adhesive and aerosol adhesive primer application processes;

(6) polyester-bonding putties used to assemble fiberglass parts at fiberglass boat manufacturing properties and at other reinforced plastic composite manufacturing properties; and

(7) processes using adhesives and adhesive primers that are supplied to the manufacturer in containers with a net volume of 16 ounces or less or a net weight of 1.0 pound or less.

(c) The owner or operator of any process or operation subject to another division of this chapter that specifies VOC content limits for adhesives or adhesive primers used during any of the application processes listed in §115.473(a) of this title, is exempt from the requirements in this division. Adhesives and adhesive primers used for miscellaneous metal and plastic parts surface coating processes in §115.453(a)(1)(C) - (F) and (2) of this title (related to Control Requirements) meeting a specialty application process definition in §115.470 of this title (relating to Applicability and Definitions) are not included in this exemption. Contact adhesives are not included in this exemption. When an adhesive or adhesive primer meets more than one adhesive application process definition in §115.470 of this title, the least stringent VOC content limit applies.

Adopted June 3, 2015

Effective June 25, 2015

§115.473. Control Requirements.

(a) The owner or operator shall limit volatile organic compounds (VOC) emissions from all adhesives and adhesive primers used during the specified application processes to the following VOC content limits in pounds of VOC per gallon of adhesive

(lb VOC/gal adhesive) (minus water and exempt solvent compounds), as delivered to the application system. These limits are based on the daily weighted average of all adhesives or adhesive primers delivered to the application system each day. If an adhesive or adhesive primer is used to bond dissimilar substrates together, then the applicable substrate category with the least stringent VOC content limit applies.

Figure: 30 TAC §115.473(a)

Table 1.	
General Adhesive Application Processes	Pounds of volatile organic compounds (VOC) per gallon adhesive
Reinforced Plastic Composite	1.7
Flexible Vinyl	2.1
Metal	0.3
Porous Material (Except Wood)	1.0
Rubber	2.1
Wood	0.3
Other Substrates	2.1

Table 2.	
Specialty Adhesive Application Processes	Pounds of VOC per gallon adhesive
Ceramic Tile Installation	1.1
Contact Adhesive	2.1
Cove Base Installation	1.3
Floor Covering Installation (Indoor)	1.3
Floor Covering Installation (Outdoor)	2.1
Floor Covering Installation (Perimeter Bonded Sheet Vinyl)	5.5
Metal to Urethane/Rubber Molding or Casting	7.1
Motor Vehicle Adhesive	2.1
Motor Vehicle Weatherstrip Adhesive	6.3

Multipurpose Construction	1.7
Plastic Solvent Welding Acrylonitrile Butadiene Styrene (ABS)	3.3
Plastic Solvent Welding (Except ABS)	4.2
Sheet Rubber Lining Installation	7.1
Single-Ply Roof Membrane Installation/Repair (Except Ethylene Propylene Diene Monomer)	2.1
Structural Glazing	0.8
Thin Metal Laminating	6.5
Tire Repair	0.8
Waterproof Resorcinol Glue	1.4

Table 3.	
Adhesive Primer Application Processes	Pounds of VOC per gallon adhesive
Motor Vehicle Glass-Bonding Primer	7.5
Plastic Solvent Welding Adhesive Primer	5.4
Single-Ply Roof Membrane Adhesive Primer	2.1
Other Adhesive Primer	2.1

(1) The owner or operator shall meet the VOC content limits in this subsection by using one of the following options.

(A) The owner or operator shall apply low-VOC adhesives or adhesive primers.

(B) The owner or operator shall apply adhesives or adhesive primers in combination with the operation of a vapor control system.

(2) As an alternative to paragraph (1) of this subsection, the owner or operator may operate a vapor control system capable of achieving an overall control efficiency of 85% of the VOC emissions from adhesives and adhesive primers. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.475(3) and (4) of this title (relating to Approved Test Methods and

Testing Requirements). If the owner or operator complies with the overall control efficiency option under this paragraph, then the owner or operator is exempt from the application system requirements of subsection (b) of this section.

(3) An owner or operator applying adhesives or adhesive primers in combination with a vapor control system to meet the VOC content limits in paragraph (1) of this subsection, shall use the following equation to determine the minimum overall control efficiency necessary to demonstrate equivalency. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.475(3) and (4) of this title.

Figure: 30 TAC §115.473(a)(3)

Equation 1.

$$S = \frac{C}{\left(1 - \left(\frac{C}{D}\right)\right)}$$

Where:

S = The applicable volatile organic compounds (VOC) emission limit expressed on a pounds of VOC per gallon of solids basis.

C = The applicable VOC content limit from Tables 1 - 3 in subsection (a) of this section expressed on a pounds of VOC per gallon of adhesive basis.

D = An assumed density of 7.36 pounds of VOC per gallon of VOC.

Equation 2.

$$E = \frac{(\text{VOC} - S)}{\text{VOC}}$$

Where:

E = The required overall control efficiency, decimal fraction.

VOC = The volatile organic compounds (VOC) content of the adhesives or adhesive primers used for each application process expressed on a solids basis in pounds of VOC per gallon of solids. The owner or operator may choose to use either a daily weighted average or the maximum VOC content.

S = The applicable VOC emission limit expressed on a pounds of VOC per gallon of solids basis calculated using Equation 1.

(b) The owner or operator of any application process subject to this division shall not apply adhesives or adhesive primers unless one of the following application systems is used:

(1) electrostatic spray;

(2) high-volume, low-pressure spray (HVLP);

(3) flow coat;

(4) roll coat or hand application, including non-spray application methods similar to hand or mechanically powered caulking gun, brush, or direct hand application;

(5) dip coat;

(6) airless spray;

(7) air-assisted airless spray; or

(8) other application system capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spray. For the purpose of this requirement, the transfer efficiency of HVLP spray is assumed to be 65%. The owner or operator shall demonstrate that either the application system being used is equivalent to the transfer efficiency of an HVLP spray or that the application system being used has a transfer efficiency of at least 65%.

(c) The following work practices apply to the owner or operator of each application process subject to this division.

(1) For the storage, mixing, and handling of all adhesives, adhesive primers, thinners, and adhesive-related waste materials, the owner or operator shall:

(A) store all VOC-containing adhesives, adhesive primers, and process-related waste materials in closed containers;

(B) ensure that mixing and storage containers used for VOC-containing adhesives, adhesive primers, and process-related waste materials are kept closed at all times;

(C) minimize spills of VOC-containing adhesives, adhesive primers, and process-related waste materials; and

(D) convey VOC-containing adhesives, adhesive primers, and process-related waste materials from one location to another in closed containers or pipes.

(2) For the storage, mixing, and handling of all surface preparation materials and cleaning materials, the owner or operator shall:

(A) store all VOC-containing cleaning materials and used shop towels in closed containers;

(B) ensure that storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials;

(C) minimize spills of VOC-containing cleaning materials;

(D) convey VOC-containing cleaning materials from one location to another in closed containers or pipes; and

(E) minimize VOC emissions from the 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.

(d) An application process that becomes subject to subsection (a) of this section by exceeding the exemption limits in §115.471(a) of this title (relating to Exemptions) is subject to the provisions in subsection (a) of this section even if throughput or emissions later fall below exemption limits unless emissions are maintained at or below the controlled emissions level achieved while complying with subsection (a) of this section and one of the following conditions is met.

(1) The project that caused a throughput or emission rate to fall below the exemption limits in §115.471(a) of this title must be authorized by a permit, permit amendment, standard permit, or permit by rule required by Chapters 106 or 116 of this title (relating to Permits by Rule; and Control of Air Pollution by Permits for New Construction or Modification, respectively). If a permit by rule is available for the project, the owner or operator shall continue to comply with subsection (a) of this section for 30 days after the filing of documentation of compliance with that permit by rule.

(2) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.

Adopted June 3, 2015

Effective June 25, 2015

§115.474. Alternate Control Requirements.

For the owner or operator of an application process subject to this division, alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

Adopted December 7, 2011

Effective December 29, 2011

§115.475. Approved Test Methods and Testing Requirements.

The owner or operator shall demonstrate compliance with the volatile organic compounds (VOC) content limits in §115.473(a) of this title (relating to Control Requirements) by applying the following test methods, as appropriate. Where a test method also inadvertently measures compounds that are exempt solvent, an owner or operator may exclude the exempt solvent when determining compliance with a VOC content limit. As an alternative to the test methods in this section, the VOC content of an adhesive or adhesive primer may be determined by using analytical data from the material safety data sheet.

(1) Except for reactive adhesives, compliance with the VOC content limits in §115.473(a) of this title must be determined using Method 24 (40 Code of Federal Regulations (CFR) Part 60, Appendix A).

(2) Compliance with the VOC content limits for reactive adhesives in §115.473(a) of this title must be determined using 40 CFR Part 63, Subpart P, Appendix A, (as amended through April 24, 2007 (72 FR 20237)).

(3) The owner or operator of an application process subject to §115.473 of this title shall measure the capture efficiency using the applicable procedures outlined in 40 CFR §52.741, Subpart O, Appendix B (as amended through October 21, 1996 (61 FR 54559)). These procedures are: Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure; Procedure L - VOC Input; Procedure G.2 - Captured VOC Emissions (Dilution Technique); Procedure F.1 - Fugitive VOC Emissions from Temporary Enclosures; and Procedure F.2 - Fugitive VOC Emissions from Building Enclosures.

(A) The following exemptions apply to capture efficiency testing requirements.

(i) If a source installs a permanent total enclosure that meets the specifications of Procedure T and that directs all VOC to a control device, then the capture efficiency is assumed to be 100%, and the source is exempted from capture efficiency testing requirements. This does not exempt the source from performance of any control device efficiency testing that may be required. In addition, a source must demonstrate all criteria for a permanent total enclosure are met during testing for control efficiency.

(ii) If a source uses a vapor control system designed to collect and recover VOC (e.g., carbon adsorption system), an explicit measurement of capture efficiency is not necessary if the following conditions are met. The overall control efficiency of the system can be determined by directly comparing the input liquid VOC to the recovered liquid VOC. The general procedure for use in this situation is given in 40 CFR §60.433 (as amended through October 17, 2000 (65 FR 61761)), with the following additional restrictions.

(I) The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average. This verification must be done within 72 hours following each 24-hour period of the 30-day period.

(II) The solvent recovery system (i.e., capture and control system) must be dedicated to a single process line (e.g., one process line venting to a carbon adsorber system) or if the solvent recovery system controls multiple process lines, the source must be able to demonstrate that the overall control efficiency (i.e., the total recovered solvent VOC divided by the sum of liquid VOC input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.

(B) The capture efficiency must be calculated using one of the following protocols referenced unless a suitable alternative protocol is approved by the executive director and the United States Environmental Protection Agency (EPA).

(i) Gas/gas method using temporary total enclosure (TTE). The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.475(3)(B)(i)

$$CE = \frac{G_w}{(G_w + F_w)}$$

Where:

CE = The capture efficiency, decimal fraction.

G_w = The mass of volatile organic compounds (VOC) captured and delivered to control device using a temporary total enclosure (TTE) (use Procedure G.2).

F_w = The mass of fugitive VOC that escapes from a TTE (use Procedure F.1).

(ii) Liquid/gas method using TTE. The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.475(3)(B)(ii)

$$CE = \frac{(L - F)}{L}$$

Where:

CE = Capture efficiency, decimal fraction.

L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).

F = The mass of fugitive VOC that escapes from a temporary total enclosure (use Procedure F.1).

(iii) Gas/gas method using the building or room enclosure (BE) in which the affected source is located and in which the mass of VOC captured and delivered to a control device and the mass of fugitive VOC that escapes from BE are measured while operating only the affected facility. All fans and blowers in the BE must be operating as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.475(3)(B)(iii)

$$CE = \frac{G}{(G + F_B)}$$

Where:

CE = Capture efficiency, decimal fraction.

G = The mass of volatile organic compounds (VOC) captured and delivered to a control device (use Procedure G.2).

F_B = The mass of fugitive VOC that escapes from the building or room enclosure (use Procedure F.2).

(iv) Liquid/gas method using a BE in which the mass of liquid VOC input to process and the mass of fugitive VOC that escapes from BE are measured while operating only the affected facility. All fans and blowers in the BE must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.475(3)(B)(iv)

$$CE = \frac{L}{F_B - L}$$

Where:

CE = The capture efficiency, decimal fraction.

L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).

F_B = The mass of fugitive VOC that escapes from building or room enclosure (use Procedure F.2).

(C) The operating parameters selected for monitoring the capture system for compliance with the requirements in §115.478(a) of this title (relating to Monitoring and Recordkeeping requirements) must be monitored and recorded during the initial capture efficiency testing and thereafter during facility operation. The executive director may require a new capture efficiency test if the operating parameter values change significantly from those recorded during the initial capture efficiency test.

(4) In addition to the requirements of paragraph (3) of this section, the owner or operator shall determine compliance with §115.473(a)(2) of this title by applying the following test methods, as appropriate:

(A) Methods 1 - 4 (40 CFR Part 60, Appendix A) for determining flow rates, as necessary;

(B) Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(C) Method 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis; and

(D) additional performance test procedures described in 40 CFR §60.444 (as amended through October 18, 1983 (48 FR 48375)).

(5) Minor modifications to the methods in paragraphs (1) - (4) of this section may be approved by the executive director. Methods other than those specified in paragraphs (1) - (4) of this section may be used if approved by the executive director and validated using Method 301 (40 CFR Part 63, Appendix A). For the purposes of this paragraph, substitute "executive director" each place that Method 301 references "administrator."

Adopted December 7, 2011

Effective December 29, 2011

§115.478. Monitoring and Recordkeeping Requirements.

(a) Monitoring requirements. The following monitoring requirements apply to the owner or operator of an application process subject to this division that uses a vapor control system in accordance with §115.473(a)(2) of this title (relating to Control Requirements). The owner or operator shall install and maintain monitors to accurately measure and record operational parameters of all required control devices, as necessary, to ensure the proper functioning of those devices in accordance with design specifications, including:

(1) continuous monitoring of the exhaust gas temperature immediately downstream of direct-flame incinerators or the gas temperature immediately upstream and downstream of any catalyst bed;

(2) the total amount of volatile organic compounds (VOC) recovered by carbon adsorption or other solvent recovery systems during a calendar month;

(3) continuous monitoring of carbon adsorption bed exhaust; and

(4) appropriate operating parameters for vapor control systems other than those specified in paragraphs (1) - (3) of this subsection.

(b) Recordkeeping requirements. The following recordkeeping requirements apply to the owner or operator of an application process subject to this division.

(1) The owner or operator shall maintain records of the testing data or the material safety data sheet in accordance with the requirements in §115.475(1) of this title (relating to Approved Test Methods and Testing Requirements). Records must be sufficient to demonstrate continuous compliance with the VOC limits in §115.473(a) of this title.

(2) The owner or operator of an application process claiming an exemption in §115.471 of this title (relating to Exemptions) shall maintain records sufficient to demonstrate continuous compliance with the applicable exemption criteria.

(3) The owner or operator shall maintain records of any testing conducted at an affected facility in accordance with the provisions specified in §115.475(3) and (4) of this title.

(4) Records must be maintained a minimum of two years and made available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution agency with jurisdiction.

Adopted December 7, 2011

Effective December 29, 2011

§115.479. Compliance Schedules.

(a) The owner or operator of an application process in Brazoria, Chambers, Collin, Dallas, Denton, Ellis, Fort Bend, Galveston, Harris, Johnson, Kaufman, Liberty, Montgomery, Parker, Rockwall, Tarrant, and Waller, Counties shall comply with this division no later than March 1, 2013.

(b) The owner or operator of an application process in Wise County shall comply with this division as soon as practicable, but no later than January 1, 2017.

(c) The owner or operator of an application process that becomes subject to this division on or after the applicable compliance date in this section shall comply with the requirements in this division no later than 60 days after becoming subject.

(d) Upon the date the commission publishes notice in the *Texas Register* that the Wise County nonattainment designation for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard is no longer legally effective, the owner or operator of each application process in Wise County is not required to comply with any of the requirements in this division.

Adopted June 3, 2015

Effective June 25, 2015