This document contains section 22a-174-20 of the Connecticut regulations for abatement of air pollution, which was most recently amended effective 07 March 2014 by revisions to subsections (a), (b), (c) and (x). This document was prepared by the State of Connecticut Department of Energy & Environmental Protection and is provided for the convenience of the reader. This is not the official version of the regulations. Official legal publications may be obtained from the Commission on Official Legal Publications, 111 Phoenix Ave., Enfield, CT 06082 (telephone: (860) 741-3027, or http://www.jud.ct.gov/colp/default.htm). In the event there is inconsistency between this document and the regulations as published in the Connecticut Law Journal, the Connecticut Law Journal publication will serve as the official version.

Sec. 22a-174-20. Control of organic compound emissions

(a) Storage of volatile organic compounds and restrictions for the Reid vapor pressure of gasoline.

(1) Definitions. For the purposes of this subsection and subsections (b) and (c) of this section:

(A) "Aboveground" means located on or above the surface of the ground, partially buried, bunkered or located in a subterranean vault;

(B) "Approved control system" means, a vapor balance system or a vapor recovery system;

(C) "Degassing" means the process of removing organic vapors from a storage tank in preparation for human entry;

(D) "Delivery vehicle" means a tank truck, tank-equipped trailer, railroad tank car, or other mobile source equipped with a storage tank used for the transportation of gasoline from sources of supply to any stationary storage tank;

(E) "Dispensing facility" means any site where gasoline is delivered to motor vehicles other than agricultural vehicles from any stationary storage tank with a capacity of 250 gallons or more;

(F) "Floating roof" means a movable roof in a storage vessel consisting of a floating deck resting on the surface of the liquid contents, a continuous seal supported against the inner surface of the tank shell, and an envelope closing the gap between the floating deck and the seal. The entire deck, seal and envelope combination is free to rise and fall with the surface of the liquid during filling and emptying of the storage vessel;

(G) "Gasoline" means any petroleum distillate or petroleum distillate and alcohol blend commercially known or sold as "gasoline" and commonly used as an internal combustion engine fuel;

(H) "Gasoline storage tank farm" means a premises with any individual gasoline storage tank with a capacity equal to or greater than forty thousand (40,000) gallons;

(I) "Leak-free" means a condition that exists when the reading on a portable hydrocarbon analyzer is less than 500 ppm, expressed as methane, above background, measured using EPA Method 21, as identified in 40 CFR Part 60, Appendix A, Determination of Volatile Organic Compounds Leaks;

(J) "Loading facility" means any combination of equipment located on a premises and used to load or unload any VOC with a vapor pressure of 0.75 pounds per square inch or greater under standard conditions;

(K) "Reid vapor pressure" or "RVP" means the vapor pressure of a liquid in pounds per square inch absolute at one hundred (100) degrees fahrenheit as determined by American Society for Testing and Materials method D5191-07 "Standard Test Method for Vapor Pressure of Petroleum Products (Mini Method);"

(L) "Roof landing" means the reduction of the liquid level in a floating roof tank so that the floating roof is no longer floating on the surface of the stored liquid but is resting on its legs or is supported from above by cables or hangers;

(M) "Storage tank" means any tank, reservoir or vessel that is a container for liquids or gases, wherein:

(i) No manufacturing process, or part thereof, other than filling or emptying takes place, and

(ii) The only treatment carried out is treatment necessary to prevent change from occurring in the physical condition or chemical properties of the liquids or gases deposited into the container. Such treatment may include, but is not limited to, recirculating, agitating, maintaining the temperature of the stored liquids or gases, replacing air in the vapor space above the stored liquids or gases with an inert gas to inhibit the occurrence of a chemical reaction or adding a biocide to prevent microbial growth;

(N) "Throughput" means the number of gallons delivered through all equipment at a dispensing facility or a loading facility over a specified time interval;

(O) "Underground" means "underground" as defined in section 22a-449(d)-1(a)(2) of the Regulations of Connecticut State Agencies;

(P) "Vapor balance system" means a combination of pipes or hoses that creates a closed connection between the vapor spaces of an unloading tank and receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded and for which the vapor space connections on the unloading tank, the receiving tank and the pipes or hoses used are equipped with fittings that are vapor-tight and will automatically and immediately close upon disconnection so as to prevent the release of vapors;

(Q) "Vapor recovery system" means a device or system that collects vapors to prevent release into the atmosphere. Collected vapors are recovered for use or destroyed; and

(R) "Vapor-tight" means not capable of allowing the passage of gases at the pressures encountered.

(2) No owner or operator shall place, store or hold in any aboveground storage tank of 40,000 gallons (150,000 liters) capacity or greater any VOC with a vapor pressure of 0.75 pounds per square inch or greater under standard conditions unless the tank is designed and

equipped with a vapor loss control device identified in either subparagraph (A), (B), (C) or (D) of this subdivision.

(A) The tank is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor or gas loss to the atmosphere;

(B) The tank is equipped with a fixed roof and a floating roof that rests on the surface of the liquid contents and is equipped with a closure seal or seals to close the space between the roof edge and tank wall. This control equipment is not permitted if the VOC has a vapor pressure of 11.0 pounds per square inch absolute (568 mm Hg) or greater under standard conditions. The owner or operator shall operate and maintain such a tank to ensure that:

(i) There are no visible holes, tears or other openings in the seal or any seal fabric or materials,

(ii) All openings except stub drains are equipped with covers, lids or seals such that:

(I) The cover, lid or seal is in the closed position at all times except when in actual use,

(II) Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports, and

(III) Rim vents, if provided, are set to open to the manufacturer's recommended setting when the roof is floated off the roof leg supports or cables,

(iii) All tank gauging and sampling devices are vapor-tight except when tank gauging or sampling is taking place, and

(iv) No liquid accumulates on the top of the floating roof;

(C) The tank is equipped with a fixed roof and a vapor recovery system that is designed and operated to reduce emissions of VOCs to the atmosphere by at least 95 percent by weight. An owner or operator limiting vapor loss according to this subparagraph shall perform the following actions no later than ten years after the effective date of this subsection if the tank is in existence prior to the effective date of this subsection or by the initial fill date if a tank is constructed on or after the effective date of this subsection:

(i) Equip any gauging or sampling device on the tank with a leak-free cover that shall be closed at all times, with no visible gaps, except during gauging or sampling,

(ii) Maintain the fixed roof in a leak-free condition with no holes, tears or uncovered openings,

(iii) Install and maintain each roof opening in a leak-free condition at all times except when the cover is open for access or when a vent is required to be open to relieve excess pressure or vacuum in accordance with the manufacturer's design, and

(iv) Once per month, demonstrate compliance with this subsection by inspecting the fittings located on the roof, piping, pressure relief valves and all other valves to ensure they are leak-free using EPA Method 21 or using another method approved by the commissioner and the Administrator; or

(D) The tank is equipped with other equipment or means of air pollution control with an efficiency equal to or greater than that required under subparagraph (C) of this subdivision that is approved by the commissioner in a permit or order, where such permit or order has been approved by the Administrator.

(3) An owner or operator limiting vapor loss in accordance with subdivision (2)(B) of this subsection shall conduct inspections as follows:

(A) Once per month visually inspect the floating roof deck, deck fittings and rim seal system through the roof hatches of the fixed roof to determine compliance with the requirements of subdivision (2)(B) of this subsection; and

(B) Whenever the tank is emptied and degassed, but no less than once every 10 years, conduct an inspection from within the tank by:

(i) Visually inspecting the floating roof deck, deck fittings and rim seal system to determine compliance with the requirements of subdivision (2)(B) of this subsection and ensure that the seal between the floating roof and the tank wall is uniform, and

(ii) Physically measuring gaps between any deck fitting gasket, seal or wiper and any surface that such gasket, seal or wiper is intended to seal. Gaps shall not exceed 0.125 inches.

(C) The inspection specified in subparagraph (B) of this subdivision may be performed entirely from the top side of the floating roof as long as there is visual access to all deck components specified in subdivision (2)(B) of this subsection.

(4) For any tank subject to subdivision (2) of this subsection, if any piping, valves, vents, seals, gaskets or covers of roof openings are found to have defects or visible gaps or the VOC control requirements of this subsection are not met, the owner or operator shall:

(A) If the tank is not storing liquid, complete repairs or replacements prior to filling the tank;

(B) If the tank is storing liquid, complete repairs or replacements or remove the tank from service within 45 days after discovery of the defect or visible gap. If the owner or operator anticipates that a repair or replacement cannot be completed or

the tank cannot be emptied within such 45 day period, the owner or operator shall notify the commissioner prior to the end of such 45 day period. The owner or operator shall make repairs or completely empty the tank as soon as possible; and

(C) Any evidence of leakage as described in this subsection shall also be treated as a malfunction of control equipment as described in section 22a-174-7 of the Regulations of Connecticut State Agencies.

(5) No person shall place, store, or hold in any stationary storage vessel of more than 250-gallon (950 liter) capacity any VOC with a vapor pressure of 0.75 pounds per square inch or greater under standard conditions unless such vessel is equipped with a permanent submerged fill pipe or is a pressure tank as described in subdivision (2)(A) of this subsection. Submerged fill pipes installed on or prior to the effective date of this subsection shall have a discharge point no more than 18 inches from the bottom of the storage tank or be compliant with the requirements of 40 CFR 63 Subpart CCCCCC. Submerged fill pipes installed after the effective date of this subsection shall have a discharge point no more than six inches from the bottom of the storage tank.

(6) The provisions of subdivision (5) of this subsection shall not apply to the following:

(A) Loading of VOCs into any storage vessel having a capacity of less than one-thousand (1,000) gallons installed prior to June 1, 1972;

(B) Any underground storage vessel installed prior to June 1, 1972, where the fill pipe between the fill connection and the storage vessel is an offset fill pipe; or

(C) Any aboveground storage tank equipped with a floating roof.

(7) The external surfaces of any storage tank containing VOCs with a vapor pressure of 0.75 pounds per square inch or greater under standard conditions that has a maximum capacity of 2,000 gallons (7,570 liters) or greater and is exposed to the rays of the sun shall be either mill-finished aluminum or painted and maintained white upon the next painting of the tank, or upon being returned to service after being out of service for the first time after the effective date of this subsection, whichever is sooner, and no less than 10 years after the effective date of this subsection, except the requirement to use mill-finished aluminum or white paint shall not apply to words and logograms applied to the external surface of the storage tank for purposes of identification provided such symbols do not cover more than 20 percent of the external surface area of the tank's sides and top or more than 200 square feet (18.6 square meters), whichever is less.

(8) When performing a roof landing of a floating roof tank, the owner or operator of any tank shall:

(A) When the roof is resting on its leg supports or suspended by cables or hangers, empty and refill the tank as a continuous process; and

(B) After the tank is degassed for the first time after the effective date of this subsection, any in-service roof landing shall be with the landed height of the floating roof at its minimum setting.

(9) An owner or operator of an aboveground storage tank shall perform degassing and cleaning as set out in this subdivision.

(A) Beginning with the first June 1 after the effective date of this subsection, an owner or operator shall not perform degassing of any aboveground storage tank subject to subdivision (2) of this subsection during the period from June 1 through August 31 of any calendar year, except as provided in subparagraph (B) of this subdivision.

(B) Notwithstanding subparagraph (A) of this subdivision, an owner or operator may degas an aboveground storage tank at any time for the purpose of performing a repair that is necessary for safe and proper function of the tank. An owner or operator shall notify the commissioner when a tank is emptied and degassed under this subparagraph within 72 hours of completing the degassing and repair. Such notification shall be submitted to the Compliance Assistance and Coordination Unit of the Bureau of Air Management and shall include the following information:

(i) Identification of the facility and the tank degassed,

(ii) Identification of the VOC stored,

(iii) An explanation of the need to degas the tank during the period from June 1 through August 31,

(iv) The date the owner or operator determined that degassing and repair would be necessary,

(v) The dates that degassing commenced and was completed, and

(vi) The date that inspection, repair and refilling was or is anticipated to be completed.

(C) An owner or operator shall clean an aboveground storage tank subject to subdivision (2) of this subsection using one or more of the following methods:

(i) Using any of the following cleaning agents:

(I) Diesel fuel,

(II) A solvent with an initial boiling point of greater than 302 degrees Fahrenheit,

(III) A solvent with a vapor pressure less than 0.5 pounds per square inch,

(IV) A solvent with 50 grams per liter VOC content or less, or

(V) Another cleaning agent approved by the commissioner and the Administrator, or

(ii) Steam cleaning.

(10) Records.

(A) An owner or operator shall maintain records including, at a minimum, the information described in subparagraph (B) of this subdivision. All such records shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(B) An owner or operator shall maintain records of the following information:

(i) For a tank equipped with a vapor loss control device specified in subdivision (2) of this subsection:

(I) Type of VOC stored, vapor pressure and monthly throughput,

(II) A Material Safety Data Sheet or Environmental Data Sheet for each VOC stored, and

(III) Records of the inspections conducted under subdivision (3) of this subsection including, but not limited to, date of the inspection, results and corrective actions taken, if applicable,

(ii) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner and the Administrator,

(iii) Date and type of maintenance performed on air pollution control equipment, if applicable,

(iv) Documentation of any leak detected pursuant to subdivision (4) of this subsection, including, but not limited to, the date the leak was detected, location of the leak, type of repair made and the date of repair and explanation of the reason for delaying repair, if applicable,

(v) For each floating roof landing event, the tank contents before landing and after refilling, landed height of the floating roof, height of any liquid

remaining in the bottom of the tank after landing, duration of landing and landing emissions calculated using AP-42 Chapter 7 methodology,

(vi) Dates of all tank degassing activities performed pursuant to subparagraphs (A) or (B) of subdivision (9) of this subsection,

(vii) Date, cleaning method and cleaning agents used for any cleaning performed pursuant to subparagraph (C) of subdivision (9) of this subsection, and

(viii) Any approval by the commissioner or Administrator issued pursuant to this subsection.

(11) Between May 1 and September 15 the owner or operator of any gasoline storage tank farm shall not offer for sale, sell or deliver to any dispensing facility in Connecticut gasoline with a Reid Vapor Pressure in excess of 9.0 pounds per square inch.

(12) In addition to the requirements of section 22a-174-4 of the Regulations of Connecticut State Agencies, the commissioner may by permit or order require the owner or operator of any gasoline storage tank farm to provide records of the analysis of gasoline samples to determine compliance with the provisions of subdivision (11) of this subsection.

(13) Samples to be analyzed for RVP shall be collected and handled according to the applicable procedures in American Society for Testing and Materials method D 5842–95(2000), "Standard Practice for Sampling and Handling of Fuels for Volatility Measurement."

(14) RVP shall be determined using American Society for Testing and Materials method D5191-07 (2007), except that the following correlation equation shall be used:

$$\text{RVP psi} = (0.956 * X) - 0.347.$$

(b) Loading of gasoline and other volatile organic compounds.

(1) Reserved.

(2) No person shall load or permit the loading of any VOC with a vapor pressure of 0.75 pounds per square inch or greater under standard conditions into any delivery vehicle from any loading facility with a throughput of 10,000 gallons or more in any one day unless such loading facility is equipped with a vapor collection and vapor recovery system or its equivalent, properly installed, in good working order, and in operation, and:

(A) The vapors discharged from the delivery vehicle during loading are processed by a vapor recovery system; and

(B) The amount of VOCs released to the ambient air is less than 80 milligrams per liter of liquid loaded over a six (6) hour period. To determine compliance with

this requirement the reference methods and test procedures found in 40 CFR 60.503(a) and 60.503(c), respectively, shall be used.

(3) No person shall load or permit the loading of any VOC with a vapor pressure of 0.75 pounds per square inch or greater under standard conditions into any delivery vehicle having a capacity in excess of 200 gallons (760 liters) from any loading facility with a throughput of 10,000 gallons or more in any one day unless such loading facility is equipped with a loading arm with a vapor collection adaptor, pneumatic, hydraulic, or other mechanical means to force a vapor-tight seal between the adaptor and the hatch. A means shall be provided to prevent liquid organic compounds drainage from the loading device when it is removed from the hatch of any delivery vehicle, or to accomplish complete drainage before such removal. When loading is effected through means other than hatches, all loading and vapor lines shall be equipped with fittings that make vapor-tight connections and close automatically when disconnected.

(4) Subdivisions (2) and (3) of this subsection shall apply only to the loading of VOCs with a vapor pressure of 0.75 pounds per square inch or greater under standard conditions at a facility from which at least 10,000 gallons of such organic compounds are loaded in any one day. The applicability of subdivisions (2) and (3) of this subsection shall be based upon a thirty day rolling average, and once a loading facility exceeds this limit, the requirements of subdivisions (2) and (3) of this subsection shall apply.

(5) After April 1, 1982, no person shall transfer or allow the transfer of gasoline to or from any delivery vehicle to or from any loading facility with a throughput of less than 10,000 gallons a day and more than 4,000 gallons a day unless the transfer takes place through a submerged fill pipe and a vapor balance system is used. The throughput of a loading facility shall be based upon a thirty day rolling average and once a loading facility exceeds this limit, the requirements of this subdivision shall always apply.

(6) By December 31, 1982, any person who owns or operates any dispensing facility with a stationary storage tank for gasoline having a capacity of more than two thousand (2,000) gallons and a throughput of ten thousand (10,000) gallons or more per thirty (30) day period shall install at each stationary storage tank an approved control system. The applicability of this subdivision shall be based upon a thirty day rolling average and once a loading facility exceeds this limit, the requirements of this subdivision shall always apply.

(7) After December 31, 1982, no person shall install any stationary storage tank for gasoline with a capacity of more than two hundred fifty (250) gallons and a throughput of ten thousand (10,000) gallons or more per thirty (30) day period unless the tank has an approved control system. The throughput of a loading facility shall be based upon a thirty day rolling average and once a loading facility exceeds this limit, the requirements of this subdivision shall always apply.

(8) Effective May 31, 1983, no person shall transfer or allow the transfer of gasoline from a delivery vehicle to a stationary storage tank subject to the provisions of subdivisions (6) or (7) of this subsection unless:

(A) the transfer is made through a properly maintained and operated approved control system which is in good working order, connected and operating; and

(B) there are no leaks in pressure/vacuum relief valves and hatch covers of the delivery vehicle, nor in the truck tanks, storage tank or associated vapor and liquid lines during loading or unloading.

(9) No person shall dispense gasoline to a stationary storage tank having an approved control system in such a manner as to impair the collection efficiency of the control system.

(10) The owner or operator of a delivery vehicle shall ensure that:

(A) the delivery vehicle is designed and maintained to be vapor-tight at all times;

(B) the hatches are closed at all times during loading and unloading operations;

(C) the pressure relief valves are set to release at no less than 0.7 pounds per square inch; and

(D) the vapor laden delivery vehicle is refilled only at facilities which meet the requirements of subdivisions (2) or (5) of this subsection.

(11) The Commissioner may provide an exemption to the provisions of subdivisions (5) or (6) of this subsection for economic or technological impracticability. Any exemption granted under this subdivision shall require the approval of the Administrator.

(12) Any owner or operator of a delivery vehicle that receives gasoline from a loading facility described in subdivisions (2) or (5) of this subsection or delivers gasoline to a dispensing facility subject to the provisions of subdivisions (6) or (7) of this subsection or any loading facility subject to subdivision (5) of this subsection shall not cause or permit a delivery vehicle to load or unload gasoline unless:

(A) such owner or operator tests the tank on such delivery vehicle once every twelve (12) months in accordance with Method 27 as set forth in Appendix A of Title 40 Code of Federal Regulations Part 60 or another manner accepted by the Administrator and approved by the Commissioner in accordance with section 22a-174-5;

(B) Repealed;

(C) during the test specified in subparagraph (A) of this subdivision, the tank sustains a pressure change of no more than three (3) inches of water in five (5) minutes when pressurized to a gauge pressure of eighteen (18) inches of water or when evacuated to a gauge pressure of six (6) inches of water; and

(D) the delivery vehicle displays a marking near the U.S. Department of Transportation markings required by Title 49 of the Code of Federal Regulations Section 177.824 which shows the initials “DEP” and the date of the last test or comparable markings as required by either the Connecticut Department of Transportation or the Connecticut Department of Motor Vehicles.

(13) The owner or operator of any delivery vehicle which fails to meet the requirements of subdivisions (12) or (14) of this subsection shall repair and retest such vehicle within fifteen (15) days.

(14) Any person who performs a test required by subdivision (12) of this subsection shall:

(A) notify the Department's Air Compliance Unit of the time and location of the test at least forty-eight (48) hours in advance; and

(B) submit a copy of the test report to the Commissioner within ten (10) days after performing a test.

(15) The owner or operator of any delivery vehicle subject to the provisions of subdivision (12) of this subsection shall ensure that:

(A) during loading and unloading operations the tank is not subject to a pressure in excess of eighteen (18) inches of water, nor a vacuum in excess of six (6) inches of water;

(B) during loading and unloading operations there are no visible liquid leaks and there is never a reading equal to or greater than the Lower Explosive Limit (LEL, measured as propane) at one (1) inch from any source of potential leaks as detected by a combustible gas detector using the test procedure described in Appendix B to "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems" (EPA-450/2-78-051); and

(C) records of all tests performed under subdivision (12) of this subsection are maintained for a minimum of five (5) years.

(16) The owner or operator of any loading facility, dispensing facility or delivery vehicle subject to the provisions of this subsection shall:

(A) within six (6) months of the effective date of this subdivision, develop a written operation and maintenance (O&M) plan for any equipment used to load or unload gasoline;

(B) within twelve (12) months of the effective date of this subdivision, develop a formal training program implementing the O&M plan for any person who receives gasoline from a loading facility described in subdivisions (2) or (5) of this subsection or delivers gasoline to a dispensing facility subject to the provisions of subdivisions (6) or (7) of this subsection or any loading facility subject to subdivision (5) of this subsection;

(C) make and keep monthly records demonstrating implementation of the O&M plan, including records of persons completing the training program required by subparagraph (B) of the subdivision, at the subject facility; and

(D) maintain such records at the subject facility for a period of five (5) years, and provide such records to the commissioner upon request.

(17) The owner or operator of a loading facility with a throughput of 4,000 gallons or more in any day shall not cause, allow or permit leakage from any equipment in VOC service, including but not limited to pumps, valves and compressors. The owner or operator of any equipment in VOC service that is leaking as determined by sight, smell, sound or measurement of VOCs in excess of 5000 parts per million shall repair such leak no later than fifteen days after detection. A request to delay a repair of a leak may be made to the commissioner and the Administrator in writing if the repair is infeasible for technical or safety reasons. Such a request shall be submitted no later than 15 days after detection of the leak.

(c) Volatile organic compound and water separation. No owner or operator shall use any compartment of any single or multiple compartment volatile organic compound and waste water

separator that receives effluent water containing 200 gallons (760 liters) a day or more of any VOC with a vapor pressure of 1.5 pounds per square inch or more from any equipment processing, refining, treating, storing, or handling VOCs unless such compartment is equipped with one or more of the following vapor loss control devices, properly installed, in good working order, and in operation:

(1) A container having all openings sealed and totally enclosing the liquid contents. All gauging and sampling devices shall be vapor-tight except when gauging or sampling is taking place;

(2) A container equipped with a floating roof that rests on the surface of the contents and is equipped with a closure seal or seals to close the space between the roof edge and container wall. All gauging and sampling devices shall be vapor-tight except when gauging or sampling is taking place;

(3) A container equipped with a vapor recovery system that reduces VOC emissions by at least 95 per cent by weight; or

(4) A container having other equipment of equivalent efficiency may be approved by the commissioner in a permit or order, where such permit or order has been approved by the Administrator.

(d) Pumps and compressors. All pumps and compressors handling "volatile organic compounds" with a vapor pressure of 1.5 pounds per square inch or greater under actual storage conditions shall have mechanical seals or other equipment of equal efficiency for purposes of "air pollution" control as may be approved by the "Commissioner," except that in cases where mechanical seals are impractical because of the abrasive or corrosive nature of the liquid handled, best available technology for the reduction of "organic compound" "emissions" shall be deemed equivalent to the use of mechanical seals.

(e) Waste gas disposal.

(e)(1) No "person" shall cause or permit any "emission" from any ethylene producing plant or other ethylene "emission" "source" unless the waste gas stream is properly burned at 1300ºF. (704ºC) for 0.3 second or greater in a direct-flame after burner or an equally effective device as approved by the "Commissioner." This provision shall not apply to emergency reliefs and vapor blowdown systems.

(e)(2) No "person" shall cause or permit any "emission" of organic gases from a vapor blowdown systems or emergency relief unless these gases are burned by smokeless "flares" or an equally effective control device as approved by the "Commissioner."

Exemptions to this section will be considered when the frequency of venting and the quantity of potential release are low, and all occurrences are reported to the "Commissioner." In the case of emergency reliefs, exemptions will also be considered if the "Commissioner" determines that addition of control equipment would constitute an explosion hazard or other safety hazard.

(f) Organic solvents.

(f)(1) No "person" shall cause or permit the discharge into the atmosphere of more than 40 pounds of organic materials in any one day, nor of more than 8 pounds in any one hour, from any article, machine, equipment or other contrivance, in which any organic solvent or any material containing organic solvent comes into contact with flame or is baked, heat-cured or heat-polymerized, in the presence of oxygen, unless said discharge has been reduced by at least 85 percent overall. Those portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this subsection are collectively subject to compliance with this subdivision.

(f)(2) No "person" shall cause or permit the discharge into the atmosphere of more than 40 pounds of organic materials in any one day, nor of more than 8 pounds in any one hour, from any article or machine, other than described in subdivision (f)(1), for employing or applying any highly photochemically reactive solvent as defined in subdivisions (i)(1) or (i)(2) of this section unless the discharge has been reduced by at least 85 percent overall. "Emissions" of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this subdivision are included in determining compliance with this subdivision. "Emissions" resulting from baking, heat-curing, or heat-polymerizing as described in subdivision (f)(1) are excluded from determination of compliance with this subdivision. Those portions of any series or articles, machines, equipment or other contrivances designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this subdivision shall be collectively subject to compliance with this

subdivision.

(f)(3) [Reserved]

(f)(4) On or after June 1, 1973, no "person" shall cause or permit the discharge into the atmosphere of more than 800 pounds of organic materials in any one day, nor more than 160 pounds in any one hour, from any article, machine, equipment or other contrivance in which any organic solvent or any material containing such solvent is employed or applied, unless the discharge has been reduced by at least 85 percent overall. "Emissions" of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this subsection are included in determining compliance with this subdivision. "Emissions" resulting from baking, heat-curing, or heat-polymerizing as described in subsection (f)(1) are excluded from determination of compliance with this subdivision. Those portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this subsection are be collectively subject to compliance with this subdivision.

(f)(5) "Emissions" of organic materials to the atmosphere from the cleanup of any article, machine, equipment or other contrivance described in subdivisions (f)(1) through (f)(4) inclusive are included with the other "emissions" of organic materials from that article, equipment or other contrivance for determining compliance.

(f)(6) The owner or "operator" of a "source" subject to subdivision (f)(1), (f)(2) or (f)(4) shall achieve the "emission" limits under those paragraphs by:

(A) Incineration, provided that 90 percent or more of the carbon in the organic material being incinerated is oxidized to carbon dioxide each hour. However, incineration is not acceptable for halogenated hydrocarbons;

(B) Adsorption, provided that organic emissions are reduced by 90 percent or more each hour; or

(C) A system demonstrated to have control efficiency equivalent to or greater than the above and approved by the "Commissioner" by permit or order.

(f)(7) A "person" incinerating, adsorbing, or otherwise processing organic materials pursuant to subdivision (f)(6) shall provide, properly install, and maintain in calibration, in good working order, and in operation, devices or procedures as specified by the "Commissioner" for indicating and recording temperatures, pressures, rates of flow, or other operating conditions necessary to determine the degree and effectiveness of "air pollution" control.

(f)(8) Any "person" using or supplying solvents or any materials containing organic solvents shall supply the "Commissioner," upon request and in the manner and form prescribed by him, written evidence of the chemical composition, physical properties, and amount consumed for each organic solvent used.

(9) The provisions of subsection (f) shall not apply to:

(A) The use of equipment for which other requirements are specified by any one of the following subsections of this section: (a) through (e), (k) through (y) or (ff) through (jj); or for which reasonably available control technology is required by section 22a-174-32 of the Regulations of Connecticut State Agencies;

(B) The spraying or other employment of insecticides, pesticides, or herbicides; or

(C) The "emission" of "organic compounds" from coating operations where the "volatile organic compound" portion of the coating solvent is 20 per cent or less by weight.

(f)(10) For the purposes of subsection (f), organic materials are defined as chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate.

(f)(11) For the purposes of subsection (f), organic solvents include diluents and thinners and are defined as organic materials which are liquids at "standard conditions" and which are used as dissolvers, viscosity reducers or cleaning agents, except that such materials which exhibit a boiling point higher than 220oF. under standard conditions or having an equivalent vapor pressure shall not be considered to be solvents unless exposed to temperatures exceeding 220°F.

(f)(12) For the purpose of subdivisions (f)(1) and (f)(4), 85 percent reduction of organic materials "emissions" shall mean 85 percent reduction of total organic materials "emissions" present when operations are conducted according to good industrial practice.

(f)(13) For the purpose of subdivision (f)(2) 85 percent reduction of "emissions" shall mean 85 percent reduction of highly photochemically reactive solvent "emissions" present when operations are conducted according to good industrial practice, utilizing the maximum proportion

of highly photochemically reactive solvent appropriate to such good practice. Substitution of a nonhighly photochemically reactive solvent shall be considered 100 percent reduction of the highly photochemically reactive "emissions" involved.

(f)(14) For the purposes of subsection (f), a continuous web, strip or wire means a product which contains at least one unbroken web, strip or wire from beginning to end of an article, machine, equipment or other contrivance (or series of) irrespective of the addition of any other materials during processing.

(g) Reserved.

(h) Exemptions. If the "Commissioner" determines that nonhighly photochemically unreactive solvents are not available for a particular application or class of applications, then the Commissioner may issue an order providing for an exemption, provided that this shall not prevent the "attainment" or maintenance of the national "ambient air quality standard" for photochemical oxidants.

(i) Classification of solvents.

(i)(1) The following solvents shall be considered highly photochemically reactive:

(A) Group R1: Any hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones, having an olefinic or cycloolefinic type of unsaturation.

(B) Group R2: Any aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene, phenyl acetate, and methyl benzoate.

(C) Group R3: Any ketones having branched hydrocarbon structures, and ethylbenzene, trichloroethylene, and toluene.

(i)(2) Any solvent mixture will be considered highly photochemically reactive if the composition of the mixture exceeds any of the following limits by volume:

(A) 5 percent of any combination of chemical compounds in group R1.

(B) 8 percent of any combination of chemical compounds in group R2.

(C) 20 percent of any combination of chemical compounds in group R3.

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(D) 20 percent of any combination of chemical compounds in groups R1, R2, and R3.

(i)(3) Whenever any organic solvent or any constituent of any organic solvent may be classified from its chemical structure into more than one of the above groups of "organic compounds," it shall be considered a member of the most reactive chemical group, which is, that group having the least allowable percent of the total volume of solvents.

(i)(4) Any solvent not classified in subdivision (i)(1) and any solvent mixture which does not exceed any of the limits in subdivision (i)(2) of this section shall be considered nonhighly photochemically reactive.

(j) Disposal and evaporation of solvents. A "person" shall not, during any one day, dispose of more than one and one-half gallons (5.7 liters) of any volatile organic compound or of any material containing more than one and one-half gallons (5.7 liters) of any volatile organic compound by any means which will permit the evaporation of such solvent into the atmosphere.

(k) Restrictions on VOC emissions from cutback and emulsified asphalt.

(1) Definitions. For the purposes of this subsection:

(A) "Asphalt" means a dark brown or black solid, liquid or semisolid cementitious material composed primarily of bitumens that occur in nature or are obtained as residue in refining petroleum.

(B) "Cutback asphalt" means asphalt that has been liquefied by blending with a diluent of petroleum solvents or any other diluent that contains VOC.

(C) "Emulsified asphalt" means an emulsion of asphalt and water that contains a small amount of an emulsifying agent; it is a heterogeneous system containing two normally immiscible phases (asphalt and water) in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase.

(2) Applicability.

This subsection shall apply to any person who, on or after May 1, 2009, stores, uses, solicits the use of, or applies asphalt for road paving, road maintenance or road repair.

(3) Standards.

(A) Except with prior written approval of the Commissioner and the Administrator as provided in subdivision (4) of this subsection, during the period from May 1 through September 30 of any calendar year, no person shall use or apply:

(i) Cutback asphalt; or

(ii) Emulsified asphalt, unless:

(I) The asphalt, as applied, was formulated to contain not greater than 0.1% VOC by weight, or

(II) The asphalt, as applied, produces not greater than 6.0 milliliter of oil distillate by distillation as tested by ASTM Method D 244 or AASHTO Method T 59.

(B) Any person who stores asphalt during the period of time from October 1 through April 30, may continue to store such asphalt during May 1 through September 30.

(4) Exceptions.

(A) The use or application of cutback asphalt or emulsified asphalt that does not comply with subdivision (3) of this subsection may be allowed upon obtaining approval from the Commissioner and the Administrator.

(B) Any request for an approval under this subdivision shall be made in writing to the Commissioner and the Administrator and shall include, at a minimum, the following information:

(i) The scope of the activity,

(ii) An assessment of alternative materials and procedures,

(iii) Quantification of the amount of VOC that would be emitted as a result of such activity,

(iv) The dates during which the activity will occur, and

(v) A demonstration that it is necessary for the activity to occur during the period commencing on May 1 and ending after September 30.

(5) Recordkeeping.

(A) Any person subject to this subsection shall:

(i) Maintain records of test, formulation, and usage data, and any other information necessary for the Commissioner to determine compliance with the requirements of this subsection,

(ii) Maintain all records required pursuant to this subsection in a readily accessible location in Connecticut for a minimum of five (5) years, and

(iii) Provide records made pursuant to this subsection to the Commissioner not later than thirty (30) days after a request to provide such records.

(B) Any person who has obtained approval for a non-complying use pursuant to subdivision (4) of this subsection shall maintain copies of the request, all supporting materials and the written approval of the Commissioner.

(*l*) Metal cleaning.

(*l*)(1) Definitions. For the purposes of this subsection:

(A) "Air knife system" means "air knife system" as defined in 40 CFR 63.461.

(B) "Cold cleaning" means the batch process that involves spraying, brushing, flushing or immersion to clean and remove soils from metal surfaces using a degreasing solvent maintained at a temperature less than the boiling point of the solvent. Neither wipe cleaning nor spray application equipment cleaning is included in this definition.

(C) "Continuous web cleaning machine" means "continuous web cleaning machine" as defined in 40 CFR 63.461.

(D) "Conveyorized degreasing" means the continuous process of cleaning and removing soils from metal surfaces by operating with either cold or vaporized degreasing solvents.

(E) "Degreasing solvent" means any volatile organic compound used for metal cleaning.

(F) "Freeboard height" means, for a cold cleaner, the distance from the liquid solvent in the degreaser tank to the lip of the tank. For an open top vapor degreaser it is the distance from the solvent vapor level in the tank during idling to the lip of the tank. For a vapor conveyorized degreaser, it is the distance from the vapor level

to the bottom of the entrance or exit opening whichever is lower. For a cold conveyorized degreaser, it is the distance from the liquid solvent level to the bottom of the entrance or exit opening whichever is lower.

(G) “Freeboard ratio” means the freeboard height divided by the smaller interior dimension (length, width or diameter) of the degreaser.

(H) “Open top vapor degreasing” means the batch process of cleaning and removing soils from metal surfaces by condensing hot degreasing solvent vapor on the colder metal parts.

(I) “Metal cleaning” means the process of cleaning soils from metal surfaces by cold cleaning or open top vapor degreasing or conveyorized degreasing.

(J) “Refrigerated chiller” means a device, mounted above the water jacket and the primary condenser coils, that consists of secondary coils which carry a refrigerant to provide a chilled air blanket above the solvent vapor to reduce emissions from the degreaser bath. The chilled air blanket temperature, measured at the centroid of the degreaser at the coldest point, shall be no greater than 30% of the solvent's boiling point in degrees Fahrenheit.

(K) "Special and extreme solvent metal cleaning" means the use of a cold cleaning unit to clean metal parts where such metal parts are used:

(i) In the research, development, manufacture and rework of electronic parts, assemblies, boxes, wiring harnesses, sensors and connectors used in aerospace service,

(ii) In manufacturing ozone, nitrous oxide, fluorine, chlorine, bromine, halogenated compounds or oxygen in concentrations greater than 23%,

(iii) In the research, development, manufacture and rework of high precision products for which contamination must be minimized in accordance with a customer or other specification, or

(iv) In a manner that exposes such metal parts to ozone, nitrous oxide, fluorine, chlorine, bromine, halogenated compounds or oxygen in concentrations greater than 23%.

(L) "Squeegee system" means "squeegee system" as defined in 40 CFR 63.461.

(*l*)(2) The provisions of this subsection apply with the following exceptions:

(A) Open top vapor degreasers with an open area smaller than one square meter (10.8 square feet) are exempt from the provisions of clauses (ii), (iv) and (v) of subparagraph (C) of subdivision (4) of subsection (*l*) of this section;

(B) Conveyorized degreasers with a solvent/air interface smaller than two square meters (21.6 square feet) are exempt from the provisions of subparagraph (C) of subdivision (5) of subsection (*l*) of this section; and

(C) Metal cleaning equipment which uses 1,1,1 trichloroethane, methylene-chloride, or trichlorotrifluoroethane.

(*l*)(3) Except as provided in subdivisions (*l*)(6), (*l*)(7) or (*l*)(8) of this section, the owner or operator of any cold cleaning unit with an internal volume greater than one (1) liter and using solvents containing greater than five percent (5%) VOCs by weight shall meet the requirements of this subdivision.

(A) Equip the cleaning device with a cover that is easily operated with one hand.

(B) Equip the cleaning device with an internal rack or equipment for draining cleaned parts so that parts are enclosed under the cover while draining. Such drainage rack or equipment may be external for applications where an internal type cannot fit into the cleaning system.

(C) Collect and store waste solvent in closed containers. Closed containers used for storing waste solvent may contain a device that allows pressure relief but does not allow liquid solvent to drain from the container.

(D) Close the cover if parts are not being handled in the cleaner for two (2) minutes or more, or if the device is not in use.

(E) Drain the cleaned parts for at least 15 seconds or until dripping ceases, whichever is longer.

(F) If a degreasing solvent spray is used:

(i) Supply a degreasing solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray),

(ii) maintain a solvent spray pressure that does not exceed ten (10) pounds per square inch as measured at the pump outlet, and

(iii) perform spraying within the confines of the cold cleaning unit.

(G) Minimize the drafts across the top of each cold cleaning unit such that whenever the cover is open the unit is not exposed to drafts greater than 40 meters per minute, as measured between one and two meters upwind, at the same elevation as the tank lip.

(H) Do not operate the unit upon the occurrence of any visible solvent leak until such leak is repaired. Any leaked solvent or solvent spilled during transfer shall be

cleaned immediately, and the wipe rags or other sorbent material used to clean the spilled or leaked solvent shall be immediately stored in covered containers for disposal or recycling.

(I) Provide a permanent, conspicuous label on or posted near each unit summarizing the applicable operating requirements.

(J) Maintain records of the information identified in this subparagraph for a minimum of five (5) years after such record is made:

(i) The type of solvent used, including a description of the solvent and the solvent name,

(ii) The vapor pressure of the solvent in mmHg measured at 20 degrees Celsius (68 degrees Fahrenheit),

(iii) The percent VOC content by weight, and

(iv) The amount of solvent added to each unit on a monthly basis.

(K) On or after May 1, 2008, use only solvent that has a vapor pressure less than or equal to 1.0 mmHg at 20 degrees Celsius.

(L) Shall not clean sponges, fabric, wood, leather, paper and other absorbent material in a cold cleaning machine.

(*l*)(4) The owner or operator of any open top vapor degreaser shall meet the requirements of this subdivision.

(A) Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.

(B) Provide the following safety switches:

(i) A condenser flow switch and device which shuts off the sump heat if the condenser coolant is not circulating or if the vapor level rises above the height of the primary condenser; and

(ii) A spray safety switch which shuts off the spray pump if the vapor level drops more than 10 centimeters (4 inches) below the lowest condensing coil.

(C) Install one of the following control devices:

(i) Powered cover, if the freeboard ratio is greater than or equal to 0.75, and if the degreaser opening is greater than 1 square meter (10 square feet);

(ii) Refrigerated chiller;

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

(iv) Carbon adsorption system, with ventilation greater than or equal to 15 cubic meters per minute per square meter (50 cubic feet per minute per square foot) of solvent/vapor area (when cover is open), and exhausting less than 25 parts per million of degreasing solvent averaged each complete adsorption cycle; or

(v) A control system, demonstrated to have control efficiency equivalent to or greater than that required of the carbon adsorption system required in this subparagraph which is approved by the commissioner by permit or order.

(D) Keep the cover closed at all times except when processing work loads through the degreaser.

(E) Store waste degreasing solvent only in covered containers and not dispose of waste degreasing solvent or transfer it to another party, such that greater than 20 percent of the waste degreasing solvent (by weight) can evaporate into the atmosphere.

(F) Minimize solvent carryout by:

(i) Racking parts to allow complete drainage;

(ii) moving parts in and out of the degreasing unit at less than 3.3 meters per minute (11 feet per minute);

(iii) holding the parts in the vapor zone at least thirty (30) seconds or until condensation ceases, whichever is longer;

(iv) tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and

(v) allowing parts to dry within the degreasing unit for at least fifteen seconds or until visually dry, whichever is longer.

(G) Do not degrease porous or absorbent materials, such as cloth, leather, wood or rope.

(H) Do not occupy more than half of the degreaser unit's open top area with a workload.

(I) Do not load the degreasing unit to the point where the vapor level would drop more than ten (10) centimeters (4 inches) when the workload is removed from the vapor zone.

(J) Always spray within the vapor level.

(K) Operate the degreasing unit so as to prevent water from being visually detectible in solvent exiting the water separator.

(L) Do not expose the degreasing unit to drafts greater than forty (40) meters per minute (131 feet per minute) as measured between 1 and 2 meters upwind and at the same elevation as the tank lip, nor provide exhaust ventilation exceeding twenty (20) cubic meters per minute per square meter (65 cubic feet per minute per square foot) of degreasing unit open area, unless necessary to meet OSHA requirements;

(M) Do not operate the unit upon the occurrence of any visible solvent leak until such leak is repaired;

(N) Provide a permanent, conspicuous label on or posted near each unit summarizing the applicable operating requirements;

(O) Maintain a monthly record of the amount of solvent added to each unit and keep such record for a minimum of two (2) years after such record is made; and

(P) If the open top vapor degreaser is equipped with a lip exhaust, the cover required in subparagraph (A) of this subdivision shall be located below the lip exhaust.

(*l*)(5) The owner or operator of any conveyorized degreaser shall meet the requirements of this subdivision.

(A) Install one of the following control devices:

(i) Refrigerated chiller;

(ii) Carbon adsorption system, with ventilation greater than or equal to fifteen (15) cubic meters per minute per square meter (50 cubic feet per minute per square foot) of solvent/air area (when downtime covers are open), and exhausting less than twenty five (25) parts per million of degreasing solvent by volume averaged over each complete adsorption cycle; or

(iii) A system, demonstrated to have a control efficiency equivalent to or greater than that required of the carbon adsorption system required in this subparagraph, which is approved by the commissioner by permit or order.

(B) Provide the following safety switches:

(i) A condenser flow switch and device that shuts off the sump heat if the condenser coolant is not circulating or if the vapor level rises above the height of the primary coil; and

(ii) A spray safety switch that shuts off the spray pump or the conveyor if the vapor level drops more than ten (10) centimeters (4 inches) below the lowest condensing coil.

(C) Store waste degreasing solvent only in covered containers and not dispose of waste degreasing solvent or transfer it to another party, such that greater than twenty (20) percent of the waste degreasing solvent (by weight) can evaporate into the atmosphere.

(D) Rack parts to allow complete drainage.

(E) Maintain conveyor speed at less than eleven (11) feet per minute, except that the owner or operator of any continuous web cleaning machine equipped with a squeegee system, air knife system or similar system to remove solvent film from the surfaces of a continuous web part, operated and maintained such that no visible solvent film remains on the continuous web part immediately after it exits the cleaning machine, shall be exempt from the conveyor speed requirement of this subparagraph.

(F) Use either a drying tunnel, rotating basket, or other equivalent method to prevent cleaned parts from carrying out solvent liquid.

(G) Place covers over entrances and exits immediately after conveyors and exhausts are shutdown, leaving them in place until just prior to start-up.

(H) Minimize openings during operation so that entrances and exits will silhouette workloads with an average clearance between the parts and the edge of the degreasing unit opening of less than ten (10) centimeters (4 inches) or less than ten (10) percent of the width of the opening.

(I) Prevent water from being visually detectible in solvent exiting the water separator.

(J) Do not provide exhaust ventilation exceeding twenty (20) cubic meters per minute per square meter (65 cubic feet per minute per square foot) of degreasing unit open area, unless necessary to meet OSHA requirements.

(K) Do not operate the unit upon the occurrence of any visible solvent leak until such leak is repaired.

(L) Provide a permanent, conspicuous label on or posted near each unit summarizing the applicable operating requirements.

(M) Maintain a monthly record of the amount of solvent added to each unit and keep such record for five (5) years after such record is made.

(*l*)(6) The commissioner may deem a cold cleaning unit in compliance with the requirements of subparagraphs (A), (B), and (D) of subsection (*l*)(3) of this section, notwithstanding that such unit is uncovered, if the owner or operator submits written documentation to the commissioner's satisfaction demonstrating such unit provides equal or better control of volatile organic compound emissions than a similar cold cleaning unit meeting such requirements. The written documentation shall include information demonstrating compliance with the following criteria:

(A) The cold cleaner shall have a remote solvent reservoir;

(B) On or prior to April 30, 2008, the solvent used in the cold cleaner must not have a vapor pressure that exceeds 4.3kPa (33mm Hg or 0.6 PSI) measured at 38° C (100° F) or be heated above 50° C (120° F);

(C) The sink-like work area shall have an open drain area less than 100 cm^2; and

(D) The waste solvent shall be stored or properly disposed of with minimal loss due to evaporation.

(7) Subsections (*l*)(3)(F) and (*l*)(3)(G) of this section shall not apply to the owner or operator of any cold cleaning unit used for special and extreme solvent metal cleaning if the owner or operator complies with the following requirements:

(A) Limits the amount of solvent consumed in special and extreme solvent metal cleaning spray operations at the premises, excluding solvent capture and recycled, to less than 3,000 gallons in any 12-month period;

(B) Uses a solvent with a VOC content less than 7.7 pounds per gallon; and

(C) In addition to the records required pursuant to subsection (*l*)(3)(J) of this section, makes and maintains records sufficient to demonstrate compliance with subparagraphs (A) and (B) of this subdivision.

(8) Subsection (*l*)(3)(K) of this section shall not apply to the owner or operator of any of the following cold cleaning units:

(A) Used for special and extreme solvent metal cleaning;

(B) For which the owner or operator has submitted a demonstration that compliance with subsection (*l*)(3)(K) of this section will result in unsafe operating conditions and received approval from the commissioner; or

(C) Located in a permanent total enclosure equipped with control equipment that is designed and operated with an overall VOC removal efficiency of 90 percent or greater.

(9) On and after May 1, 2008, any person who sells or offers for sale any solvent containing VOCs for use in a cold cleaning machine shall provide to the purchaser the following information:

(A) The type of solvent including a description of the solvent and the solvent name,

(B) The vapor pressure of the solvent measured in mmHg at 20 degrees Celsius (68 degrees Fahrenheit); and

(C) The percent VOC content by weight.

(m) Can coating.

(1) For the purpose of this subsection:

"End sealing compound" means a synthetic rubber compound that is applied on to can ends and that functions as a gasket when the end is assembled on the can.

"Exterior base coating" means a coating applied to the exterior of a can to provide exterior protection to the metal and to provide background for the lithographic or printing operation.

"Interior base coating" means a coating applied by roller coater or spray to the metal sheets for three-piece cans to provide a protective lining between the can metal and product.

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

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

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

"Two-piece can exterior end coating" means a coating applied by roller coating or spraying to the exterior end of a can to provide protection to the metal.

(2) The owner or operator of a can coating facility shall not cause or permit the discharge into the atmosphere of any volatile organic compounds from any coating in excess of;

(A) 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time, delivered to the coating applicator from sheet basecoat (exterior and interior) and overvarnish or two-piece can exterior (basecoat and overvarnish) operations.

(B) 0.51 kilograms per liter of coating (4.2 pounds per gallon), excluding water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time, delivered to the coating applicator from two- and three-piece can interior body spray and two-piece can exterior end (spray or roll coat) operations.

(C) 0.66 kilograms per liter of coating (5.5 pounds per gallon), excluding water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time, delivered to the coating applicator from three-piece can side-seam spray operations.

(D) 0.44 kilograms per liter of coating (3.7 pounds per gallon), excluding water and exempt organic compounds listed in 40 CFR 51.100(s) as amended from time to time, delivered to the coating applicator from end sealing compound operations.

(3) The provisions of this subsection apply to any premises that has actual emissions of fifteen (15) pounds per day or more in any one day from can coating operations. After October 1, 1989 any premises that is or becomes subject to the provisions of this subsection shall remain subject to the

provisions of this subsection regardless of the daily actual emissions. Notwithstanding the above, the owner or operator of any piece of equipment that was not required to meet control requirements by this subsection prior to October 1, 1989, shall have until October 1, 1990, to comply with the control requirements of this subsection for that piece of equipment.

(n) Coil coating.

(1) For the purpose of this subsection:

"Coil coating" means the coating of any flat metal sheet or strip that comes in rolls or coils.

(2) The owner or operator of a coil coating facility shall not cause or permit the discharge into the atmosphere of any volatile organic compounds from any coating in excess of 0.31 kilograms per liter of coating (2.6 pounds per gallon), excluding water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time, delivered to the coating applicator from prime and topcoat or single coat operations.

(3) The provisions of this subsection apply to any premises that has actual emissions of fifteen (15) pounds per day or more in any one day from coil coating operations. After October 1, 1989 any premises that is or becomes subject to the provisions of this subsection shall remain subject to the provisions of this subsection regardless of the daily actual emissions, notwithstanding the above, the owner or operator of any piece of equipment that was not required to meet control requirements by this subsection prior to October 1, 1989, shall have until October 1, 1990, to comply with the control requirements of this subsection for that piece of equipment.

(o) Fabric and vinyl coating.

For the purpose of this section:

"Fabric coating" means the coating of a textile substrate with a knife, roll or rotogravure coater to impart properties that are not initially present, such as strength, stability, water or acid repellency, or appearance.

"Knife coating" means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.

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

"Rotogravure coating" means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is etched on the coating roll. The coating material is picked up in these recessed areas and is transferred to the substrate.

"Vinyl coating" means applying a decorative, functional or protective coating or printing on vinyl coated fabric or vinyl sheets.

(2) The owner or operator of a fabric coating line or a vinyl coating line shall not cause or permit the discharge into the atmosphere of any volatile organic compounds from any coating in excess of:

(A) 0.35 kilograms per liter of coating (2.9 pounds per gallon), excluding water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time, delivered to the coating applicator from a fabric coating line; and

(B) 0.45 kilograms per liter of coating (3.8 pounds per gallon), excluding water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time, delivered to the coating applicator from a vinyl coating line.

(3) The provisions of this subsection apply to any premises that has actual emissions of fifteen (15) pounds per day or more in any one day from fabric or vinyl coating operations. After October 1, 1989 any premises that is or becomes subject to the provisions of this subsection shall remain subject to the provisions of this subsection regardless of the daily actual emissions. Notwithstanding the above, the owner or operator of any piece of equipment that was not required to meet control requirements by this subsection prior to October 1, 1989, shall have until October 1, 1990, to comply with the control requirements of this subsection for that piece of equipment.

(p) Metal furniture coating.

(1) Definitions. For the purpose of this subsection:

(A) “Air-dried” means cured at a temperature below 90º C (194ºF);

(B) “As-applied” means the composition of coating at the time it is applied to a substrate, including any solvent, catalyst or other substance added to the coating as supplied by the manufacturer;

(C) “Baked” means cured at a temperature at or above 90º C (194ºF);

(D) “Capture efficiency” means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from metal furniture coating and related cleaning, expressed as a percentage;

(E) "Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

(F) "Coating" means a material that is applied to a surface and that forms a continuous film in order to beautify or protect such surface;

(G) "Coating unit" means a series of one or more coating applicators and any associated drying area or oven wherein a coating is applied, dried or cured, including any drying area or oven where a coating is applied, dried or cured prior to any subsequent application of a different coating. A "coating unit" does not include any point other than the point where the coating is dried or cured;

(H) "Dip coating" means a method of applying a coating to a surface by submersion into and removal from a coating bath;

(I) "Electric-insulating and thermal-conducting coating" means a coating that displays an electrical insulation of at least 1000 volts DC per mil on a flat test plate and an average thermal conductivity of at least 0.27 BTU per hour-foot-degree-Fahrenheit;

(J) "Electrostatic application" means a method of applying coating particles or coating droplets to a grounded surface by electrically charging such particles or droplets;

(K) "Extreme high gloss coating" means a coating that, when tested by the most recent active version of the American Society for Testing Material Test Method D523, shows a reflectance of 75 or more on a 60 degree meter;

(L) "Extreme performance coating" means a coating used on a metal surface where the coated surface is, in its intended use, subject to one of the following conditions:

(i) Chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solution,

(ii) Repeated exposure to temperatures in excess of 121.1º C (250º F), or

(iii) Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleaners or scouring agents;

(M) "Flow coating" means a non-atomized technique of applying coating to a substrate using a fluid nozzle in a fan pattern with no air supplied to the nozzle;

(N) “Heat-resistant coating” means a coating that is required to withstand a temperature of at least 204.5º C (400 º F) during normal use;

(O) “HVLP spray application” means to apply a coating using a high-volume, low-pressure spray application system that is designed to operate at air pressures between 0.1 and 10 pounds per square inch gauge, measured dynamically at the center of the air cap and the air horns;

(P) “Metal furniture coating” means the application of a surface coating to any furniture made of metal or any metal part that will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece;

(Q) “Metallic coating” means a coating that contains more than five grams of metal particle per liter of coating, as-applied;

(R) “Multi-component coating” means a coating requiring the addition of a separate reactive resin, such as a catalyst or hardener, before application to form an acceptable dry film;

(S) “One-component coating” means a coating that is ready for application as packaged for sale, except for the addition of a thinner to reduce the viscosity;

(T) “Overall control efficiency” means the product of the capture efficiency and the control device efficiency;

(U) “Pretreatment coating” means a coating, containing no more than 12% solids by weight and at least one-half percent acid by weight, applied directly to metal surfaces to provide surface etching, adhesion and ease when stripping;

(V) “Repair coating” means a coating used to recoat portions of a product that has sustained mechanical damage to the coating following normal painting operations;

(W) “Roll coating” means a coating method using a machine that applies coating to a substrate by continuously transferring coating through a set of oppositely rotating rollers;

(X) “Safety-indicating coating” means a coating that changes in a physical characteristic, such as color, to indicate unsafe conditions;

(Y) “Solar-absorbent coating” means a coating that has as its prime purpose the absorption of solar radiation;

(Z) “Solid-film lubricant” means a very thin coating consisting of a binder system containing as its chief pigment material one or more of molybdenum disulfide,

graphite, polytetrafluoroethylene or other solids that act as a dry lubricant between faying surfaces; and

(AA) “Stencil coating” means an ink or a coating that is rolled or brushed onto a template or stamp to add identifying letters or numbers to metal parts or products.

(2) Applicability.

(A) The provisions of this subsection apply to:

(i) An owner or operator of any premises that has actual emissions of VOC of at least 15 pounds per day from metal furniture coating and related cleaning, prior to the use of controls, or

(ii) An owner or operator that became subject to this subsection on and after October 1, 1989.

(B) Any owner or operator conducting metal furniture coating shall:

(i) Comply with the requirements of this subsection no later than January 1, 2011, and

(ii) Remain subject to this subsection regardless of actual daily VOC emissions.

(3) Exemptions and exceptions.

(A) The requirements of this subsection shall not apply to the following coatings or lubricant:

(i) Stencil coating,

(ii) Safety-indicating coating,

(iii) Solid-film lubricant,

(iv) Electric-insulating and thermal-conducting coating,

(v) Repair coating, or

(vi) Coating applied with a hand-held aerosol can.

(B) An owner or operator of a metal furniture coating unit operating in accordance with subdivision (5) of this subsection is exempt from any obligation to comply with subsection (bb) of this section.

(C) The requirements of subdivision (4) of this subsection shall not apply to a person using air pollution control equipment to comply with subdivision (5) of this subsection.

(D) An owner or operator of a metal furniture coating unit operating under a valid order issued pursuant to subsection (cc)(2) of this section or a valid permit issued pursuant to subsection (cc)(3) of this section shall operate as required in such order or permit, regardless of the requirements of this subsection.

(4) Application methods. A person shall not apply a VOC-containing coating to any metal furniture or metal furniture part unless the coating is applied by one of the following methods using equipment operated in accordance with the specifications of the equipment manufacturer:

(A) Electrostatic application;

(B) Flow coating;

(C) Dip coating;

(D) Roll coating;

(E) HVLP spray application;

(F) Hand application; or

(G) Any other coating application method capable of achieving a transfer efficiency equivalent to or better than that provided by HVLP spray application.

(5) Compliance options. Except as provided in subdivision (3) of this subsection, no owner or operator of a metal furniture coating unit shall apply any coating, inclusive of any VOC-containing materials added to the original coating supplied by the manufacturer, unless the owner or operator uses one of the following methods to limit emissions of VOCs:

(A) Use only coatings with an as-applied VOC content no greater than the level specified in Table 20(p)-1, according to coating category and drying method. The VOC content limits of Table 20(p)-1 apply to the volume of coating as-applied, less water and less exempt VOC;

(B) Install, operate and maintain according to the manufacturer's recommendations air pollution control equipment that reduces uncontrolled VOC emissions to the atmosphere from a coating unit by an overall control efficiency of at least 90%; or

(C) An alternative emission reduction plan that achieves a level of control equivalent to the levels described in subparagraph (A) or (B) of this subdivision and that is requested from and approved by the commissioner in accordance with subsection (cc) of this section.

(6) Work practices. Each owner or operator shall use the following work practices:

(A) New and used VOC-containing coating or cleaning solvent, including a coating mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of VOC-containing coating or cleaning solvent shall be minimized. Any leaked or spilled VOC-containing coating or cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with VOC-containing coatings or cleaning solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(D) VOC-containing coating or cleaning solvent shall be conveyed from one location to another in a closed container or pipe.

Table 20(p)-1. As-Applied VOC Content Limits Per Volume of Coating (Excluding Water and Exempt VOC) per Coating Category, Specific to the Drying Process

Coating Category	**Baked**		**Air Dried**	
	g/L	**lb/gal**	**g/L**	**lb/gal**
General, one component	275	2.3	275	2.3
General, multi-component	275	2.3	340	2.8
Extreme high gloss	360	3.0	340	2.8
Extreme performance	360	3.0	420	3.5
Heat-resistant	360	3.0	420	3.5
Metallic	420	3.5	420	3.5
Pretreatment	420	3.5	420	3.5
Solar-absorbent	360	3.0	420	3.5

(7) Records. An owner or operator shall maintain records of the information necessary for the commissioner to determine compliance with the applicable requirements of this subsection. All records shall be:

(A) Made available to the commissioner to inspect and copy upon request;

(B) Maintained for five years from the date such record is created; and

(C) Maintained in compliance with subsection (aa)(1) through (9) of this section.

(q) Paper, film and foil coating.

(1) Definitions. For the purpose of this subsection:

(A) "As-applied" means the composition of coating at the time it is applied to a substrate, including any solvent, catalyst or other substance added to the coating as supplied by the manufacturer;

(B) "Capture efficiency" means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from paper, film and foil coating and related cleaning, expressed as a percentage;

(C) "Coating" means a material applied onto or impregnated into a substrate for decorative, protective, or functional purposes. "Coating" does not include any material used to form an unsupported substrate, such as vinyl sheeting, blown film, cast film or extruded film.

(D) "Coating line" means a series of coating applicators, flash-off areas, and any associated curing or drying equipment between one or more unwind or feed stations and one or more rewind or cutting stations;

(E) "Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

(F) "Overall control efficiency" means the product of the capture efficiency and the control device efficiency;

(G) "Paper, film and foil coating" means the application of a continuous layer of coating across the width or any portion of the width of a paper, film or foil substrate to: (i) Create a functional or protective layer; (ii) saturate a substrate for lamination; or (iii) provide adhesion between two substrates for lamination;

(H) "Pressure sensitive adhesive" means adhesive that forms a bond when pressure is applied, without activation via solvent, water or heat; and

(I) "Pressure sensitive tape and label coating" means the application of a pressure sensitive adhesive to a paper, film or foil substrate.

(2) Applicability.

(A) The provisions of this subsection apply to:

(i) An owner or operator of any premises that has actual emissions of VOC of at least 15 pounds (6.8 kilograms) per day from paper, film and foil coating and related cleaning, prior to the use of controls, or

(ii) An owner or operator conducting paper, film and foil coating that became subject to this subsection on and after October 1, 1989.

(B) Any owner or operator conducting paper, film and foil coating shall:

(i) Comply with the requirements of this subsection no later than January 1, 2011, and

(ii) Remain subject to this subsection regardless of actual daily VOC emissions.

(3) Exemptions and exceptions.

(A) The provisions of this subsection shall not apply to the following activities:

(i) Coating performed on any coating line that has both paper coating and printing stations and that is conducted pursuant to subsection (v) of this section,

(ii) The application of sizing or water-based clays in association with the use of a papermaking machine, or

(iii) The application of inks, coatings or adhesives in association with flexible package printing conducted pursuant to subsection (ff) of this section or offset lithographic or letterpress printing conducted pursuant to subsection (gg) of this section.

(B) An owner or operator of any paper, film and foil coating line operating in compliance with subdivisions (4) and (5) of this subsection is exempt from any obligation to comply with subsection (bb) of this section.

(C) An owner or operator of a paper, film and foil coating line operating under a valid order issued pursuant to subsection (cc)(2) of this section or a valid permit issued pursuant to subsection (cc)(3) of this section shall operate as required in such order or permit, regardless of the requirements of this subsection.

(4) Except as provided in subdivision (3) or (5) of this subsection, only coatings with an as-applied VOC content less than or equal to 350 grams per liter of coating, excluding the volume of any water and exempt compounds, shall be used for paper, film and foil coating.

(5) Additional requirements. The owner and operator of any paper, film and foil coating line with a potential to emit greater than 25 tons of VOCs per year, prior to the use of controls, shall use one of the following methods to control emissions of VOCs:

(A) Use only coatings that individually meet the applicable VOC emission limit of clauses (i) or (ii) of this subparagraph, as applicable, or use only coatings so that the daily weighted average of the VOC content of all coatings used on a single coating line meets the VOC emission limit of clause (i) of this subparagraph:

(i) For all coatings except pressure sensitive tape and label coatings, use only coatings that result in VOC emissions no greater than 0.35 kilograms of VOC per kilogram of coating solids applied, or

(ii) For pressure sensitive tape and label coatings, use only coatings that result in VOC emissions no greater than 0.20 kilograms of VOC per kilogram of coating solids applied;

(B) Install, operate and maintain according to the manufacturer's recommendations air pollution control equipment that reduces uncontrolled VOC emissions to the atmosphere from a coating line by an overall control efficiency of at least 90%; or

(C) An alternative emission reduction plan that achieves a level of control equivalent to the level described in subparagraph (A) of this subdivision and that is requested from and approved by the commissioner in accordance with subsection (cc) of this section.

(6) Work practices. Each owner or operator shall use the following work practices:

(A) New and used VOC-containing coating or cleaning solvent, including a coating mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of VOC-containing coating or cleaning solvent shall be minimized. Any leaked or spilled VOC-containing coating or cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with VOC-containing coating or cleaning solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(D) VOC-containing coating or cleaning solvent shall be conveyed from one location to another in a closed container or pipe.

(7) Records. An owner or operator shall maintain records of the information necessary for the commissioner to determine compliance with the applicable requirements of this subsection. All records shall be:

(A) Made available to the commissioner to inspect and copy upon request;

(B) Maintained for five years from the date such record is created; and

(C) Maintained in compliance with subsection (aa)(1) through (9) of this section.

(r) Wire coating.

(1) For the purpose of this section:

"Wire coating" means the process of applying a coating of electrically insulating varnish or enamel to aluminum or copper wire for use in electrical machinery.

(2) The owner or operator of a wire coating oven shall not cause or permit the discharge into the atmosphere of any volatile organic compounds from any coating in excess of 0.20 kilograms per liter of coating (1.7 pounds per gallon), excluding water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time, delivered to the coating applicator from wire coating operations.

(3) The provisions of this subsection apply to any premises that has actual emissions of fifteen (15) pounds per day or more in any one day from wire coating operations. After October 1, 1989 any premises that is or becomes subject to the provisions of this subsection shall remain subject to the provisions of this subsection regardless of the daily actual emissions. Notwithstanding the above, the owner or operator of any piece of equipment that was not required to meet control requirements by this subsection prior to October 1, 1989, shall have until October 1, 1990, to comply with the control requirements of this subsection for that piece of equipment.

(s) Miscellaneous metal and plastic parts coatings.

(1) Definitions. For the purpose of this subsection, the following definitions apply:

“Ablative coating” means 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, to protect adjacent components from the heat or open flame;

“Adhesion promoter” means a very thin coating applied to a substrate to promote wetting and form a chemical bond with the subsequently applied material;

“Adhesive bonding primer” means a primer applied in a thin film to aerospace components to inhibit corrosion and increase adhesive bond strength;

“Aerospace high temperature coating” means a coating designed to withstand temperatures of more than 350°F;

“Aerospace vehicle or component” means 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;

“Air dried” means cured at a temperature below 90ºC (194 ºF);

“Airless spray application” means a coating spray application system using high fluid pressure, without compressed air, to atomize the coating;

“Air-assisted airless spray application” means a coating spray application system using fluid pressure to atomize the coating and lower pressure air to adjust the shape of the spray pattern;

“Antichafe coating” means a coating applied to areas of moving aerospace components that may rub during normal operations or installation;

“Antique aerospace vehicle” means an aircraft or component thereof that was built at least 30 years ago and that is not routinely in commercial or military service in the capacity for which it was designed;

“Appurtenance” means any accessory to a stationary structure, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lampposts; partitions; pipes and piping systems; rain gutters and downspouts; stairways; fixed ladders; catwalks; fire escapes and window screens;

“As applied” means the composition of coating at the time it is applied to a surface, including any solvent, catalyst or other substance added to the coating but excluding water and exempt compounds;

"Automotive-transportation part" means an interior or exterior component of a motor vehicle or mobile source;

“Baked” means cured at a temperature at or above 90°C (194°F);

“Base coat” means the initial coating applied to a substrate in a process of applying two or more coatings;

“Bearing coating” means a coating applied to an antifriction bearing, a bearing housing or the area adjacent to such a bearing to facilitate bearing function or to protect base material from excessive wear. “Bearing coating” does not include a material that can also be classified as a dry lubricative material or a solid film lubricant;

“Bonding maskant” means a temporary coating used to protect selected areas of aerospace parts from strong acid or alkaline solutions during processing for bonding;

“Business machine” means 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, such as, typewriters, electronic computing devices, calculating and accounting machines, telephone and telegraph equipment and photocopy machines;

"Camouflage coating" means a coating used, principally by the military, to conceal equipment from detection;

"Capture efficiency" means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from the miscellaneous metal and plastic parts coating operation, expressed as a percentage;

"Caulking and smoothing compound" means a semi-solid material that is applied by hand and used to smooth exterior vehicle surfaces or fill cavities such as bolt hole accesses. "Caulking and smoothing compound" does not include a material that can also be classified as a sealant;

"Chemical agent-resistant coating" means an exterior topcoat designed to withstand exposure to chemical warfare agents or the decontaminants used on these agents;

"Chemical milling maskant" means 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. "Chemical milling maskants" do not include bonding maskants, critical use and line sealer maskants, seal coat maskants, maskants that are defined as specialty coatings or maskants used with either a Type I or II etchant plus a bonding maskant, critical use and line sealer maskant or seal coat maskant;

"Cleaning solvent" means any VOC-containing liquid, including a liquid impregnated wipe or towelette, used in cleaning;

"Clear coating" means a colorless coating that contains binders but no pigment and that is formulated to form a transparent film;

"Coating" means a material that is deposited in a thin, persistent, uniform layer across the surface of a substrate for aesthetic, protective or functional purposes, including but not limited to, paints, primers, inks and maskants. "Coating" does not include protective oils, acids and bases;

"Coating unit" means a series of one or more coating applicators and any associated drying area or oven wherein a coating is applied, dried 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;

"Commercial exterior aerodynamic structure primer" means 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;

"Commercial interior adhesive" means a material used in the bonding of passenger cabin interior components;

"Compatible substrate primer" means one of the following coatings:

(A) A primer that is compatible with the filled elastomeric coating and is epoxy based,

(B) A primer that inhibits corrosion and is applied to bare metal surfaces or is applied prior to adhesive application, or

(C) A primer that is applied to surfaces, excluding fuel tanks, that can be expected to come into contact with fuel;

"Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

"Corrosion prevention compound" means a coating system that provides corrosion protection by displacing water and penetrating substrates, forming a protective barrier between the metal surface and moisture. "Corrosion prevention compound" does not include a coating containing oils or waxes;

"Critical use and line sealer maskant" means 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 A8 strength steel, high-precision aluminum chemical milling of deep cuts and aluminum chemical milling of complex shapes, and includes materials used for repairs or to bridge gaps left by scribing operations;

"Cryogenic flexible primer" means 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°F and below);

"Cryoprotective coating" means 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;

"Cyanoacrylate adhesive" means a fast-setting, single component adhesive that cures at room temperature and contains methyl, ethyl, methoxymethyl or other functional groupings of cyanoacrylate;

"Dip coating" means a method of applying a coating to a surface by submersion into and removal from a coating bath;

"Drum" means any cylindrical metal container larger than 12 gallons capacity and less than or equal to 110 gallons capacity;

"Dry lubricative material" means a coating consisting of lauric acid, cetyl alcohol, waxes or other non-cross linked or resin-bound materials that act as a dry lubricant;

"Electric dissipating coating" means a coating that rapidly dissipates a high-voltage electric charge;

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

"Electric-insulating varnish" means a coating applied to electric motors, components of electric motors or power transformers to provide electrical, mechanical and environmental protection or resistance;

"Electric or radiation-effect coating" means 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 and which may be used for lightning strike protection, electromagnetic pulse (EMP) protection and radar avoidance.

"Electrostatic application" means a method of applying coating particles or coating droplets to a grounded surface by electrically charging such particles or droplets;

"Electrostatic discharge and electromagnetic interference coating" or "EMI coating" means a coating applied to space vehicles, missiles, aircraft radomes and helicopter blades to disperse static energy or reduce electromagnetic interference;

"Electrostatic preparation coating" means a coating applied to a plastic part solely to provide conductivity for the subsequent application of a primer, a topcoat or other coating through the use of electrostatic application methods;

"Elevated-temperature Skydrol-resistant commercial primer" means a primer applied primarily to commercial aircraft or commercial aircraft adapted for military use that withstands immersion in phosphate-ester hydraulic fluid (Skydrol 500b or equivalent) at the elevated temperature of 150°F for 1,000 hours;

"EMI/RFI shield coating" means a coating that functions to attenuate electromagnetic interference, radio frequency interference signals or static discharge;

"Epoxy polyamide topcoat" means a coating containing epoxy and a polyamide component used to provide a hard, durable, chemical-resistant finish;

"Etching filler" means a coating that contains less than 23% solids by weight and at least 0.5% acid by weight and is used as a substitute for the application of a pretreatment coating followed by a primer;

"Exempt compound" means a carbon compound excluded from the definition of "volatile organic compound," as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies;

"Extreme high-gloss coating" means a coating that, when tested by American Society for Testing Material Test Method D523-08, Standard Test Method for Specular Gloss, shows a reflectance of 75 or more on a 60 degree meter;

"Extreme performance coating" means a coating used on a metal surface where the coated surface is, in its intended use, subject to one of the following conditions:

(A) Chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solution,

(B) Repeated exposure to temperatures in excess of 250°F, or

(C) Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleaners or scouring agents;

"Fire-resistant interior coating" means, for civilian aircraft, fire-resistant interior coatings used on passenger cabin interior parts that are subject to Federal Aviation Administration 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, "fire-resistant interior coating" means a coating subject to the flammability requirements of SE-R-0006 and SSP 30233;

“Flexible primer” means a primer with elastomeric qualities that provides a compatible, flexible substrate over bonded sheet rubber and rubber-type coatings;

“Flight test coating” means 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;

“Flow coating” means a non-atomized technique of applying coating to a substrate using a fluid nozzle in a fan pattern with no air supplied to the nozzle;

“Fog coat” means a coating that is applied to a plastic part at a thickness of no more than 0.5 mils of coating solids for the purpose of color matching without masking a molded-in texture;

“Fuel tank adhesive” means an adhesive that must be compatible with fuel tank coatings and is used to bond components exposed to fuel;

“Fuel tank coating” means a coating applied to fuel tank components for the purpose of corrosion or bacterial growth inhibition and to assure sealant adhesion in extreme environmental conditions;

“General” means a coating category for a coating that does not meet any other category definition provided in this subsection for the specified substrate (i.e., metal part or plastic part);

“General aviation rework facility” means any aerospace facility with the majority of its revenues resulting from the reconstruction, repair, maintenance, repainting, conversion or alteration of general aviation aerospace vehicles or components;

“Gloss reducer” means a coating that is applied to a plastic part at a thickness of no more than 0.5 mils of coating solids solely to reduce the shine of the part;

“Heat-resistant coating” means a coating able to withstand a temperature of at least 400° F during normal use;

“High-performance architectural coating” means a coating used to protect architectural subsections and which meets the requirements of the Architectural Aluminum Manufacturer 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);

“High temperature coating” means a coating certified to withstand a temperature of 1000ºF for 24 hours;

“HVLP spray application” means to apply a coating using a coating application system that uses lower air pressure and higher volume than conventional air atomized spray systems, where the manufacturer has represented that the system is HVLP by affixing a permanent label or through representations on the packaging or other product literature;

“Insulation covering” means material that is applied to foam insulation to protect the insulation from mechanical or environmental damage;

"Intermediate release coating" means a thin coating applied beneath topcoats to assist in removing the topcoat in depainting operations and to allow the use of less hazardous depainting methods;

"Lacquer" means a clear or pigmented coating formulated with a nitrocellulose or synthetic resin to dry by evaporation without a chemical reaction and that is resoluble in its original solvent;

"Large commercial aircraft" means an aircraft of more than 110,000 pounds, maximum certified take-off weight, manufactured for non-military use;

"Mask coating" means thin film coating applied through a template to coat a small portion of a substrate;

"Medical device" means an instrument, apparatus, implement, machine, gadget, appliance, implant, *in vitro* reagent or other similar or related article, including any component, part or accessory, which meets one of the following conditions:

(A) Recognized in the official National Formulary or the United States Pharmacopeia or any supplement thereto,

(B) Intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment or prevention of disease in persons or animals, or

(C) Intended to affect the structure or function of the body of a person or animal and which does not achieve its primary intended purposes through chemical action within or on such body and which is not dependent upon being metabolized for the achievement of its primary intended purposes;

"Metalized epoxy coating" means a coating that contains metallic pigmentation for appearance or added protection;

"Metallic coating" means a coating that contains more than five grams of metal particles per liter of coating, as applied;

"Miscellaneous metal and plastic parts" means metal and plastic components of products as well as the products themselves constructed either entirely or partially from metal or plastic including, but not limited to: aerospace vehicles and components, fabricated metal products, molded plastic parts, small and large farm machinery, commercial and industrial machinery and equipment, automotive or transportation equipment, interior or exterior automotive parts, construction equipment, motor vehicle accessories, bicycles and sporting goods, toys, recreational vehicles, extruded aluminum structural components, railroad cars, lawn and garden equipment, business machines, laboratory and medical equipment, electronic equipment, steel drums, metal pipes and small appliances;

"Mold-seal coating" means 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;

"Mold release" means a coating applied to a mold surface to prevent the molded piece from sticking to the mold as it is removed;

"Motor vehicle" means any self-propelled vehicle, including, but not limited to, cars, trucks, buses, golf carts, vans, motorcycles, tanks and armored personnel carriers;

"Motor vehicle bedliner coating" means a multi-component coating applied to a cargo bed after the application of a topcoat to provide additional durability and chip resistance;

"Motor vehicle cavity wax" means a coating applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection;

"Motor vehicle deadener" means a coating applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment;

"Motor vehicle gasket/sealing material" means a fluid 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 (RTV) seal material;

"Motor vehicle lubricating wax/compound" means a protective lubricating material applied to vehicle hubs and hinges;

"Motor vehicle sealer" means a high viscosity material 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;

"Motor vehicle trunk interior coating" means a coating applied to the trunk interior to provide chip protection;

"Motor vehicle underbody coating" means a coating applied to the undercarriage or firewall to prevent corrosion or provide chip protection;

"Multi-colored coating" means a coating packaged in a single container and applied in a single coat which exhibits more than one color when applied;

"Multi-component coating" means a coating requiring the addition of a separate reactive resin, such as a catalyst or hardener, before application to form an acceptable dry film;

"Nonstructural adhesive" means an adhesive that bonds nonload bearing aerospace components in noncritical applications and is not covered in any other specialty adhesive categories;

"One-component coating" means a coating that is ready for application as packaged for sale, except for the addition of a thinner to reduce the viscosity;

"Optical antireflection coating" means 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;

"Optical coating" means a coating with a low reflectance in the infrared and visible wavelength range that is used on or near optical or laser lenses or hardware;

"Overall control efficiency" means the product of the capture efficiency and the control device efficiency;

"Pan-backing coating" means a coating applied to the surface of pots, pans or other cooking implements that are exposed directly to a flame or other heating element;

"Part marking coating" means coatings or inks used to make permanent or temporary identifying markings on materials, components or assemblies;

"Plastic part" means any piece or combination of pieces of which at least one has been formed from one or more resins. Such pieces may be solid, porous, flexible or rigid. "Plastic part" does not include a part made of fiberglass or composite material;

"Powder coating" means any coating applied as a dry, finely divided solid that, when melted and fused, adheres to the substrate as a paint film;

"Prefabricated architectural component coating" means a coating applied to prefabricated metal parts and products that are to be used as architectural appurtenances or structures and that are detached from the structure when coated in a shop environment;

"Pretreatment coating" means a coating, containing at least 0.5 percent acid by weight, applied directly to a metal or composite surface to provide surface etching, corrosion resistance, adhesion and ease of stripping;

"Primer" means a coating applied to prevent corrosion, provide protection or provide a surface for adhesion of subsequent coatings;

"Radome" means the nonmetallic protective housing for electromagnetic transmitters and receivers such as radar or electronic countermeasures;

"Rain erosion-resistant coating" means a coating or coating system used to protect the leading edges of parts, such as flaps, stabilizers, radomes or engine inlet nacelles against erosion caused by rain impact during flight;

"Related cleaning" means the removal of uncured coatings, coating residue and contaminants from:

(A) Miscellaneous metal and plastic parts prior to the application of coatings,

(B) Miscellaneous metal and plastic parts between coating applications, or

(C) Transfer lines, storage tanks, spray booths and coating application equipment;

"Repair coating" means a coating used to recoat portions of a product that has sustained mechanical damage to the coating following normal painting operations;

"Resin" means any of numerous physically similar polymerized synthetics or chemically modified natural materials including thermoplastic materials such as polyvinyl, polystyrene and polyethylene and thermosetting materials such as polyesters, epoxies and silicones;

"Resist coating" means a coating that is applied to a plastic part before metallic plating to prevent deposits of metal on portions of the plastic part;

"Rocket motor bonding adhesive" means an adhesive used in rocket motor bonding applications;

"Rocket motor nozzle coating" means a catalyzed epoxy coating system used in elevated temperature applications on rocket motor nozzles;

"Roll coating" means a coating method using a machine that applies coating to a substrate by continuously transferring coating through a set of oppositely rotating rollers;

"Rubber-based adhesive" means a quick-setting contact cement that provides a strong, yet flexible bond between two substrates that may be of dissimilar materials;

"Safety-indicating coating" means a coating that changes in a physical characteristic, such as color, to indicate unsafe conditions;

"Scale inhibitor" means a coating that is applied to the surface of a part prior to thermal processing to inhibit scale formation;

"Screen print ink" means an ink used in screen printing processes during fabrication of decorative laminates and decals;

"Sealant" means a material used to prevent the intrusion of water, fuel, air or other liquids or solids from certain areas of aerospace vehicles or components;

"Seal coat maskant" means an overcoat applied over a maskant to improve abrasion and chemical resistance during production operations;

"Self-priming topcoat" means one or more layers of identical coating formulation of a topcoat that is applied directly to an uncoated aerospace vehicle or component for corrosion prevention, environmental protection or functional fluid resistance;

"Shock-free coating" means a coating applied to electrical components to protect the user from electric shock and that provides for low capacitance and high resistance and resists breaking down under high voltage;

"Silicone insulation material" means an insulating material that is not sacrificial and that is applied to exterior metal surfaces for protection from high temperatures caused by atmospheric friction or engine exhaust;

"Silicone-release coating" means any coating that contains silicone resin and is intended to prevent food from sticking to metal surfaces such as baking pans;

"Solar-absorbent coating" means a coating that has as its primary purpose the absorption of solar radiation;

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

"Space vehicle" means a man-made device, either manned or unmanned, designed for operation beyond earth's atmosphere, including, but not limited to, integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets and test coupons, including auxiliary equipment associated with test, transport and storage, which through contamination can compromise the space vehicle performance;

"Specialty coating" means 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. Such performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesion or enhanced corrosion protection;

"Specialized function coating" means a coating that is limited in application, characterized by low volume usage and is not able to be categorized as any other coating in Table 20(s)-6a;

"Stencil coating" means an ink or a coating that is rolled or brushed onto a template or stamp to add identifying letters or numbers to metal parts or products;

"Structural autoclavable adhesive" means an adhesive used to bond load-carrying aerospace components that is cured by heat and pressure in an autoclave;

"Structural nonautoclavable adhesive" means 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;

"Temporary protective coating" means a coating applied to provide scratch or corrosion protection during manufacturing, storage or transportation. "Temporary protective coating" does not include any coating that protects against strong acid or alkaline solutions;

"Texture coat" means a coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating;

"Textured finish" means a rough surface produced by spraying and splattering large drops of coating onto a previously applied coating;

"Thermal control coating" means a coating formulated with specific thermal conductive or radiative properties to permit temperature control of the substrate;

"Topcoat" means the final coating applied in a process of applying two or more coatings;

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

"Transfer efficiency" means the portion of coating solids that adheres to the metal or plastic surface during the application process, expressed as a percentage of the total volume of coating solids delivered by the applicator;

“Translucent coating” means a coating which contains binders and pigment and is formulated to form a colored, but not opaque, film;

“Vacuum-metalizing coating” means the undercoat applied to a substrate on which the metal is deposited prior to a vacuum-metalizing process or the overcoat applied directly to the metal film after a vacuum-metalizing process;

“Vacuum metalizing process” means the process of evaporating metals inside a vacuum chamber and depositing them on a substrate to achieve a uniform metalized layer;

“Wet fastener installation coating” means a primer or sealant applied by dipping, brushing or daubing to fasteners that are installed before the coating is cured; and

“Wing coating” means a corrosion-resistant topcoat that withstands the flexing of aircraft wings and rotary wings.

(2) Applicability.

(A) Except as provided in subdivision (7) of this subsection, the provisions of this subsection apply to the owner or operator of any:

(i) Coating unit subject at any time to the provisions of subsection (s) of this section that was in effect prior to the effective date of this regulation, or

(ii) Miscellaneous metal and plastic parts coating unit for which the owner or operator purchases for use at the premises 855 gallons or more of coatings and cleaning solvents in the aggregate per rolling 12-month period.

(B) Any owner or operator of a miscellaneous metal or plastic parts coating unit who does not meet the applicability requirements provided in subparagraph (A) of this subdivision shall maintain either material purchase or actual usage records to verify that this subsection does not apply to such owner or operator.

(C) An owner or operator subject to this subsection shall:

(i) For a miscellaneous metal and plastic parts coating unit that is in operation prior to or on the effective date of this regulation, comply with the requirements of this subsection no later than January 1, 2013, or

(ii) For a miscellaneous metal and plastic parts coating unit that commences operation after January 1, 2013, comply with the requirements of this subsection upon commencing operation.

(D) Any owner or operator subject to this subsection shall remain subject to this subsection.

(3) Except as provided in subdivision (7) of this subsection, on and after January 1, 2013, no owner or operator shall apply any coating, inclusive of any VOC-containing material added to the original coating supplied by the manufacturer, unless the owner or operator controls emissions of VOCs in accordance with subparagraph (A), (B), (C) or (D) of this subdivision. If more than one emission limit or emission rate applies in a particular situation, then the least restrictive limit or emission rate shall apply. An owner or operator shall control the emission of VOCs as follows:

(A) Use only coatings that have an as applied VOC content no greater than the applicable level in Table 20(s)-1, 20(s)-2, 20(s)-3, 20(s)-4, 20(s)-5, 20(s)-6a or 20(s)-6b;

(B) For a coating unit, use a combination of low-VOC coatings and add-on air pollution control equipment to achieve a VOC emission rate no greater than the applicable level in Table 20(s)-7, 20(s)-8, 20(s)-9, or 20(s)-10;

(C) Install, operate and maintain according to the manufacturer's recommendations air pollution control equipment with an overall control efficiency of at least 90%; or

(D) Achieve a level of control that is equivalent to subparagraph (A), (B) or (C) of this subdivision, as requested from and approved by the commissioner, in accordance with subsection (cc) of this section.

(E) An owner or operator controlling emissions as provided in subparagraph (A), (B), (C) or (D) of this subdivision is exempt from any obligation to comply with subsection (bb) of this section.

(F) The requirements of subparagraphs (A), (B), (C) or (D) of this subdivision shall not apply to a coating upon request to and approval by the commissioner and the Administrator. Any request for approval shall be made in writing and shall include a description of the noncompliant coating and its VOC content, an explanation of why the noncompliant coating is necessary, the aggregate amount in gallons or pounds of noncompliant coating use anticipated in a 12-month period and the frequency of use of the noncompliant coating.

(4) Application methods. Except as provided in subdivision (7) of this subsection, an owner or operator shall not apply a VOC-containing coating to a miscellaneous metal and plastic part unless the coating is applied by one of the methods identified in subparagraphs (A) through (I) of this subdivision using equipment operated in accordance with the specifications of the equipment manufacturer:

(A) Electrostatic application;

(B) Flow coating;

(C) Dip coating;

(D) Roll coating;

(E) HVLP spray application;

(F) Airless spray application;

(G) Air-assisted airless spray application;

(H) Hand application; or

(I) Any other coating application method capable of achieving a transfer efficiency equivalent to or better than that provided by HVLP spray application. Any owner or operator using an application method pursuant to this subparagraph shall maintain records demonstrating the transfer efficiency achieved.

(5) Work practices. Each owner or operator shall use the following work practices:

(A) New and used VOC-containing coating, diluent or cleaning solvent, including a coating mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of VOC-containing coating, diluent or cleaning solvent shall be minimized. Any leaked or spilled VOC-containing coating, diluent or cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with a VOC-containing coating or solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(D) VOC-containing coating, diluent and cleaning solvent shall be conveyed from one location to another in a closed container or pipe.

(6) Notwithstanding the requirements of this subsection, an owner or operator complying with this subsection by operating under a valid permit or order issued pursuant to subsection (cc)(2) or (cc)(3) of this section shall continue to operate according to the terms of such permit or order.

(7) Exemptions and exceptions.

(A) The requirements of this subsection shall not apply to any of the following activities, and the VOC emissions resulting from the following activities shall not be included in determinations pursuant to subdivisions (2) and (7)(G) of this subsection:

(i) Coating and cleaning subject to one of the following subsections of this section: (*l*) through (r) and (hh) through (kk),

(ii) Coating applied in an automotive refinishing operation and related cleaning,

(iii) Coating and associated surface preparation and cleanup subject to section 22a-174-41 of the Regulations of Connecticut State Agencies,

(iv) Coating applied to test materials, test panels and coupons in research and development, quality control or performance testing,

(v) Coating applied in a shipbuilding and repair operation, provided that the operation is subject to 40 CFR 63 Subpart II,

(vi) Coating applied to space vehicles and related cleaning,

(vii) Coating applied to antique aerospace vehicles and related cleaning,

(viii) Coating applied with a hand-held aerosol can,

(ix) Adhesive, sealant, adhesive primer or sealant primer regulated by section 22a-174-44 of the Regulations of Connecticut State Agencies,

(x) Quality control or inspection dyes applied to metal parts,

(xi) Use of coatings containing VOC at concentrations less than 1.0 percent by weight,

(xii) Use of cleaning solvents containing VOC at concentrations less than 5.0 percent by weight, or

(xiii) Maintenance coating and related cleaning of fixtures, equipment and components that are not products manufactured by the facility or products coated on a contract basis.

(B) The requirements of subdivisions (3) and (4) of this subsection shall not apply to the application of any of the following coatings to metal parts:

(i) Stencil coating,

(ii) Safety-indicating coating,

(iii) Solid-film lubricant,

(iv) Electric-insulating and thermal-conducting coating,

(v) Magnetic data storage disk coating,

(vi) Plastic extruded onto metal parts to form a coating, or

(vii) Powder coating.

(C) The requirements of subdivision (3) of this subsection shall not apply to the application of any of the following coatings to plastic parts:

(i) Touch-up and repair coating,

(ii) Stencil coating applied on a clear or transparent substrate,

(iii) Clear or translucent coating,

(iv) Reflective coating applied to a highway cone,

(v) Mask coating less than 0.5 millimeters thick applied to an area less than 25 square inches,

(vi) EMI/RFI shield coating,

(vii) Any heparin-benzalkonium chloride (HBAC)-containing coating applied to a medical device, provided that the total of all HBAC-containing coatings used at a facility does not exceed 100 gallons per year, or

(viii) Powder coating.

(D) The requirements of subdivision (3) of this subsection shall not apply to the application of any of the following coatings to automotive-transportation and business machine parts:

(i) Vacuum metalizing coating,

(ii) Gloss reducer,

(iii) Texture coat,

(iv) Adhesion bonding primer,

(v) Electrostatic preparation coating,

(vi) Resist coating,

(vii) Stencil coating, or

(viii) Powder coating.

(E) The requirements of subdivisions (3) and (4) of this subsection shall not apply to the application of any of the following specialty coatings to an aerospace vehicle or component:

(i) Touch-up coating, or

(ii) Aerospace coating that the United States Department of Defense has designated as classified information in accordance with 32 CFR 2001.

(F) The requirements of subdivision (4) of this subsection shall not apply to the following activities:

(i) Application of touch-up and repair coating to metal parts,

(ii) Application of textured finish to metal parts,

(iii) Application of powder coating to:

(I) Plastic parts,

(II) Automotive-transportation plastic parts, or

(III) Business machine plastic parts,

(iv) Airbrush application of coating to metal or plastic parts using no more than five gallons of coating per year,

(v) Use of air pollution control equipment to comply with subdivision (3) of this subsection, or

(vi) Application of specialty coatings listed in Table 20(s)-6a of this subsection.

(G) An owner or operator with total potential VOC emissions from all miscellaneous metal and plastic parts coating, including emissions from related cleaning, limited by permit or order of the commissioner to 1,666 pounds or less in any calendar month, shall not be subject to the requirements of subdivision (3) of this subsection, provided that the owner or operator operates in compliance with such permit or order.

(H) An owner or operator may use, in the aggregate, in any 12 consecutive months no more than 55 gallons of miscellaneous metal or plastic parts coating or coatings that exceed the VOC content limits or emission limits of subdivision (3) of this subsection provided the owner or operator maintains records of non-compliant coating use.

(I) An owner or operator operating pursuant to an exemption or exception set out in this subdivision shall maintain records sufficient to verify the applicability of the exemption or exception.

(8) Records.

(A) An owner or operator shall maintain records of information sufficient to determine compliance with the applicable requirements of this subsection, including, at a minimum, the following information for each calendar month:

(i) Name and description of each coating and cleaning solvent,

(ii) VOC content of each coating and diluent, as applied, and the associated calculations,

(iii) VOC content of each coating or cleaning solvent, as supplied,

(iv) The amount of each coating and cleaning solvent:

(I) Purchased, or

(II) Used,

(v) A Material Safety Data Sheet, Environmental Data Sheet, Certified Product Data Sheet, or an equivalent data sheet for each coating and cleaning solvent,

(vi) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner and the Administrator, and

(vii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(B) All records made pursuant to this subdivision shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(9) Compliance procedures.

(A) The VOC content limits of Table 20(s)-1, 20(s)-2, 20(s)-3, 20(s)-4, 20(s)-5, 20(s)-6a or 20(s)-6b apply to the volume of coating as applied, determined using the following equation:

$$VOC\ Content = (Ws - Ww - Wes)/(Vm - Vw - Ves)$$

Where:

Ws	=	weight of volatile compounds in grams
Ww	=	weight of water in grams
Wes	=	weight of exempt compounds in grams
Vm	=	volume of coating in liters
Vw	=	volume of water in liters
Ves	=	volume of exempt compounds in liters

(B) The VOC emission rate limits of Table 20(s)-7, 20(s)-8, 20(s)-9, or 20(s)-10 apply to the mass of VOC emitted per volume of coating solids, as applied.

(C) To determine the properties of a coating or components thereof in order to perform the calculations required pursuant to subparagraph (A) of this subdivision or to verify calculations based on the manufacturer's formulation data, the VOC and solids content of all coatings shall be determined using 40 CFR 60, Appendix A, Reference Method 24 or an equivalent method. In the case of a dispute, the VOC content determined using Reference Method 24 shall control, unless a person is able to demonstrate to the satisfaction of the commissioner and the Administrator that the manufacturer's formulation data are correct.

(D) For red, yellow or black automotive coatings, except touch-up and repair coatings, the applicable VOC content limit or emission rate shall be the limit of Table 20(s)-3 or 20(s)-9, as applicable, multiplied by 1.15.

(E) Where a VOC content limit or emissions rate is provided in metric units and equivalent English units, the limit or rate in metric units defines the standard. The English units are provided for information only.

(F) A miscellaneous metal or plastic parts coating shall be defined and categorized based on the manufacturer's representations as set out on the container or label or in information provided by the manufacturer of such a miscellaneous metal or plastic parts coating.

(10) Limitations on potential to emit.

(A) An owner or operator may submit a request to the commissioner for an order or permit to limit potential emissions from all miscellaneous metal and plastic parts coating at the premises to a monthly limit of 1,666 pounds of VOC; or

(B) An owner or operator issued a permit or order prior to January 1, 2013 pursuant to former section 22a-174-20(s)(7) of the Regulations of Connecticut State Agencies may:

(i) Continue after January 1, 2013 to conduct miscellaneous metal parts coating in compliance with such a permit or order,

(ii) Submit a request to the commissioner to modify the order or permit to include all miscellaneous metal and plastic parts coating at the premises in the monthly limit of 1,666 pounds of VOC, or

(iii) Submit a request to the commissioner to revoke the order or permit.

Table 20(s)-1
Metal Parts Coating VOC Content Limits

Coating Category	Air Dried		Baked	
	g VOC/ liter coating	lbs VOC/ gal coating	g VOC/ liter coating	lbs VOC/ gal coating
General one-component	340	2.8	280	2.3
General multi-component	340	2.8	280	2.3
Camouflage	420	3.5	420	3.5
Electric-insulating varnish	420	3.5	420	3.5
Etching filler	420	3.5	420	3.5
Extreme high-gloss	420	3.5	360	3.0
Extreme performance	420	3.5	360	3.0
Heat-resistant	420	3.5	360	3.0
High performance architectural	740	6.2	740	6.2
High temperature	420	3.5	420	3.5
Metallic	420	3.5	420	3.5
Mold-seal	420	3.5	420	3.5
Pan backing	420	3.5	420	3.5
Prefabricated architectural multi-component	420	3.5	280	2.3
Prefabricated architectural one-component	420	3.5	280	2.3
Pretreatment coating	420	3.5	420	3.5
Repair and touch-up	420	3.5	360	3.0

Silicone release	420	3.5	420	3.5
Solar-absorbent	420	3.5	360	3.0
Vacuum-metalizing	420	3.5	420	3.5
Drum coating, new, exterior	340	2.8	340	2.8
Drum coating, new, interior	420	3.5	420	3.5
Drum coating, reconditioned, exterior	420	3.5	420	3.5
Drum coating, reconditioned, interior	500	4.2	500	4.2

Table 20(s)-2
Plastic Parts Coating VOC Content Limits

Coating Category	**g VOC/liter coating**	**lbs VOC/gal coating**
General one-component	280	2.3
General multi-component	420	3.5
Electric dissipating coatings and shock-free coating	800	6.7
Extreme performance multi-component	420	3.5
Metallic	420	3.5
Mold-seal	760	6.3
Multi-colored coating	680	5.7
Optical coating	800	6.7
Vacuum-metalizing	800	6.7

Table 20(s)-3
Automotive-Transportation Plastic Parts Coating VOC Content Limits

Coating Category	**g VOC/liter coating**	**lbs VOC/gal coating**
I. High bake coatings – interior and exterior parts		
Flexible primer	540	4.5
Non-flexible primer	420	3.5
Base coat	520	4.3
Clear coat	480	4.0
Non-base coat/clear coat	520	4.3
II. Low bake/air dried coatings – exterior parts		
Primer	580	4.8
Base coat	600	5.0
Clearcoat	540	4.5
Non-base coat/clearcoat	600	5.0
III. Low bake/air dried coatings – interior parts	600	5.0
IV. Touchup and repair coating	620	5.2

Table 20(s)-4
Business Machine Plastic Parts Coating VOC Content Limits

Coating Category	g VOC/liter coating	lbs VOC/gal coating
I. Primers	350	2.9
II. Topcoat	350	2.9
III. Texture coat	350	2.9
IV. Fog coat	260	2.2
V. Touchup and repair	350	2.9

Table 20(s)-5
Motor Vehicle Materials VOC Content Limits

Coating Category	g VOC/liter coating	lbs VOC/gal coating
Motor vehicle cavity wax	650	5.4
Motor vehicle sealer	650	5.4
Motor vehicle deadener	650	5.4
Motor vehicle gasket/gasket sealing material	200	1.7
Motor vehicle underbody coating	650	5.4
Motor vehicle trunk interior coating	650	5.4
Motor vehicle bedliner coating	200	1.7
Motor vehicle lubricating wax/compound	700	5.8

Table 20(s)-6a
Aerospace Specialty Coating VOC Content Limits

Coating type	g VOC/liter coating
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
Aerospace high-temperature coating	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
Cryoprotective coating	600
Dry lubricative material	880
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
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

Table 20(s)-6b Aerospace Coating VOC Content Limits	
Coating type	**g VOC/liter coating**
Primer – general aviation rework facilities	540
Exterior primer – large commercial aircraft components	650
Exterior primer – fully assembled, large commercial aircraft	650
Primer	350
Topcoat	420
Topcoat – general aviation rework facilities	540
Self-priming topcoat	420
Self-priming topcoat – general aviation rework facilities	540
Type I chemical milling maskant	622
Type II chemical milling maskant	160

Table 20(s)-7 Metal Parts Coating VOC Emission Rate Limits				
	Air Dried		**Baked**	
Coating Category	**g VOC/ liter solids**	**lb VOC/ gal solids**	**g VOC/ liter solids**	**lb VOC/ gal solids**
General one-component	540	4.52	400	3.35
General multi-component	540	4.52	400	3.35
Camouflage	800	6.67	800	6.67
Electric-insulating varnish	800	6.67	800	6.67
Etching filler	800	6.67	800	6.67
Extreme high-gloss	800	6.67	610	5.06
Extreme performance	800	6.67	610	5.06
Heat-resistant	800	6.67	610	5.06
High performance architectural	4560	38	4560	38
High temperature	800	6.67	800	6.67
Metallic	800	6.67	800	6.67
Mold-seal	800	6.67	800	6.67
Pan backing	800	6.67	800	6.67
Prefabricated architectural multi-component	800	6.67	400	3.35
Prefabricated architectural one-component	800	6.67	400	3.35
Pretreatment coating	800	6.67	800	6.67
Silicone release	800	6.67	800	6.67
Solar-absorbent	800	6.67	610	5.06
Vacuum-metalizing	800	6.67	800	6.67
Drum coating, new, exterior	540	4.52	540	4.52
Drum coating, new, interior	800	6.67	800	6.67
Drum coating, reconditioned, exterior	800	6.67	800	6.67

Drum coating, reconditioned, interior	1170	9.78	1170	9.78

Table 20(s)-8
Plastic Parts Coating VOC Emission Rate Limits

Coating Category	g VOC/liter solids	lbs VOC/gal solids
General one-component	400	3.35
General multi-component	800	6.67
Electric dissipating coatings and shock-free coatings	8960	74.7
Extreme performance multi-component	800	6.67
Metallic	800	6.67
Mold-seal	5240	43.7
Multi-colored coatings	3040	25.3
Optical coatings	8960	74.7
Vacuum-metalizing	8960	74.7

Table 20(s)-9
Automotive-Transportation Plastic Parts Coating VOC Emission Rate Limits

Coating Category	g VOC/liter solids	lbs VOC/gal solids
I. High bake coatings – interior and exterior parts		
Flexible primer	1390	11.58
Non-flexible primer	800	6.67
Base coat	1240	10.34
Clear coat	1050	8.76
Non-base coat/clear coat	1240	10.34
II. Low bake/air dried coatings – exterior parts		
Primer	1660	13.8
Base coat	1870	15.59
Clearcoat	1390	11.58
Non-base coat/clearcoat	1870	15.59
III. Low bake/air dried coatings – interior parts	1870	15.59
IV. Touch-up and repair coating	2130	17.72

Table 20(s)-10 Business Machine Plastic Parts Coating VOC Emission Rate Limits		
Coating Category	**g VOC/liter solids**	**lbs VOC/gal solids**
I. Primers	570	4.80
II. Topcoat	570	4.80
III. Texture coat	570	4.80
IV. Fog coat	380	3.14
V. Touchup and repair	570	4.80

(t) Manufacture of synthesized pharmaceutical products.

(1) Definitions for the purpose of this subsection:

"Condenser" means a device which cools a gas stream to a temperature which removes specific "volatile organic compounds" by condensation;

"Control system" means any number of control devices, including condensers, which are designed and operated to reduce the quantity of "volatile organic compounds" emitted to the atmosphere;

"Pharmaceutical product and intermediate" means any drug or chemical substance or any intermediate used to make a drug or chemical substance which is intended to be administered to a person or animal to prevent or cure disease or otherwise enhance physical or mental welfare;

"Process equipment exhaust system" means a device for collecting or directing out of the work area, air laden with fugitive "emissions" of "volatile organic compounds" from reactor openings, centrifuge openings, and other vessel openings for the purpose of protecting workers from excessive "volatile organic compounds" exposure.

"Reactor" means a vat or vessel, which may be jacketed to permit temperature control, designed to contain chemical reactions;

"Separation operation" means a process that separates a mixture of compounds and solvents into two or more components. Specific mechanisms include extraction, centrifugation, filtration, decantion, and crystallization;

"Synthesized pharmaceutical manufacturing" means manufacture of "pharmaceutical products and intermediates" by chemical syntheses. The production and recovery of materials produced via fermentation, extraction of organic chemicals from vegetative materials or animal tissues, and formulation and packaging of the product are not covered by this regulation.

(2) The owner or "operator" of a synthesized pharmaceutical manufacturing facility shall control the "volatile organic compound" "emissions" from all operations including but not limited to all reactors, distillation operations, crystallizers, extraction equipment, centrifuges, decanters, and vacuum dryers. Surface condensers or equivalent controls shall be used, provided that:

(A) If surface condensers are used, the outlet gas temperature from the condenser must not exceed:

(i) -25°C when condensing "volatile organic compounds" having a vapor pressure of 40.0 kPa (5.8 psi) or greater at 20°C,

(ii) -15°C when condensing "volatile organic compounds" having a vapor pressure of 20.0 kPa (2.9 psi) or greater at 20°C,

(iii) 0°C when condensing "volatile organic compounds" having a vapor pressure of 10.0 kPa (1.5 psi) or greater at 20°C,

(iv) 10°C when condensing "volatile organic compounds" having a vapor pressure of 7.0 kPa (1.0 psi) or greater at 20°C, or

(v) 25°C when condensing "volatile organic compounds" having a vapor pressure of 3.50 kPa (0.5 psi) or greater at 20°C, or

(B) If equivalent controls are used, the "volatile organic compound" "emissions" must be reduced over each hour by at least as much as they would be by using a surface condenser which meets the requirements of subparagraph (A) of this subdivision.

(3) The owner or "operator" of a synthesized pharmaceutical manufacturing facility subject to this regulation shall reduce the actual "volatile organic compound" "emissions" from each air dryer and each process equipment exhaust system:

(A) by at least 90 percent over each hour if actual "emissions" are 150 kg/day, (330 lb/day) or more of "volatile organic compounds"; or,

(B) to 15.0 kg/day (33.3 lb/day) or less if actual "emissions" are less than 150 kg/day (330 lb/day) of "volatile organic compounds."

(4) The owner or "operator" of a synthesized pharmaceutical manufacturing facility subject to this regulation shall:

(A) Provide a vapor balance system or equivalent control so that the amount of "volatile organic compounds" released to the "ambient air" is less than 80 milligrams per liter of liquid loaded per delivery from truck or railcar deliveries to storage "tanks" with capacities greater than 7,500 liters (2,000 gallons) that store "volatile organic compounds" with vapor pressures of 28.0 kPa (4.1 psi) or greater at 20°C; and,

(B) Install pressure/vacuum conservation vents on all storage "tanks" that store "volatile organic compounds" with vapor pressures of 10.0 kPa (1.5 psi) or greater at 20°C, unless a more effective control system is used which meets state fire marshal standards.

(5) The owner or "operator" of a synthesized pharmaceutical manufacturing facility subject to this regulation shall enclose all centrifuges, rotary vacuum filters, and other filters having an exposed liquid surface, where the liquid contains "volatile organic compounds" and has a vapor pressure of 3.50 kPa (0.5 psi) or more at 20°C.

(6) The owner or "operator" of a synthesized pharmaceutical manufacturing facility subject to this regulation shall install covers on all in-process "tanks" containing a "volatile organic compound" at any

time. These covers must remain closed, except when production, sampling, maintenance, or inspection procedures require "operator" access.

(7) The owner or "operator" of a synthesized pharmaceutical manufacturing facility subject to this regulation shall repair all leaks from which a liquid, containing "volatile organic compounds" can be observed running or dripping immediately or as subject to the conditions of Sec. 22a-174-7.

(8) The provisions of this subsection apply to all "synthesized pharmaceutical manufacturing" equipment which has potential emissions of fifteen (15) pounds per day or more in any one day. After October 1, 1989 any "synthesized pharmaceutical manufacturing" equipment which is or becomes subject to the provisions of this subsection shall remain subject to the provisions of this subsection regardless of the daily actual emissions. Notwithstanding the above, the owner or "operator" of any piece of equipment that was not required to meet control requirements by this subsection prior to October 1, 1989, shall have until October 1, 1990, to achieve final compliance with the control requirements of this subsection for that piece of equipment.

(u) Manufacture of pneumatic rubber tires

(1) For the purpose of this subsection;

"Bead dipping" means the dipping of an assembled tire bead into a solvent based cement;

"Green tires" means assembled tires before molding and curing have occurred.

"Green tire spraying" means the spraying of green tires, both inside and outside, with release compounds which help remove air from the tire during molding and prevent the tire from sticking to the mold after curing.

"Passenger type tire" means agricultural, airplane, industrial, mobile home, light and medium duty truck, and passenger vehicle tires with a bead diameter up to 20.0 inches and cross section dimension up to 12.8 inches.

"Pneumatic rubber tire manufacture" means the production of pneumatic rubber, passenger type tire on a mass production basis;

"Tread end cementing" means the application of a solvent based cement to the tire tread ends.

"Undertread cementing" means the application of a solvent based cement to the underside of a tire tread;

"Water based sprays" means release compounds, sprayed on the inside and outside of green tires, in which solids, water, and emulsifiers have been substituted for organic solvents so that the volatile organic compound content is less than four percent by weight for an inside spray and less than twelve percent by weight for an outside spray.

(2) The owner or "operator" of any undertread cementing, tread end cementing, or bead dipping operation shall:

(A) Install and operate a capture system, designed to achieve maximum reasonable capture, of at least 85 percent by weight of "volatile organic compounds" emitted, from all undertread

cementing, tread end cementing and bead dipping operations. Maximum reasonable capture shall be consistent with the following documents:

(i) Industrial ventilation, a manual of recommended practices, 14th edition, American Federation of Industrial Hygienists.

(ii) Recommended industrial ventilation guidelines, U.S. Department of Health, Education and Welfare, National Institute of Occupational Safety and Health.

(B) Install and operate a control device that meets the requirements of one of the following:

(i) A carbon adsorption system designed and operated in a manner such that there is at least a 90.0 percent removal of "volatile organic compounds" by weight from the gases ducted to the control device for each adsorption cycle or 24 hours whichever is shorter; or,

(ii) An incineration system that oxidizes at least 90.0 percent per hour of the nonmethane "volatile organic compounds" (measured as total combustible carbon) which enter the "incinerator" to carbon dioxide and water.

(iii) An alternative "volatile organic compounds" "emission" reduction system certified by the owner or "operator" to have at least a 90.0 percent reduction efficiency per hour, measured across the control system, and has been approved by the "Commissioner."

(3) The owner or "operator" of any green tire spraying operation must implement one of the following means of reducing "volatile organic compound" "emissions":

(A) Substitute water-based sprays for the normal solvent-based mold release compound; or,

(B) Install a capture system designed and operated in a manner that will capture and transfer at least 90.0 percent of the "volatile organic compounds" emitted by the green tire spraying operation to a control device, and, in addition, install and operate a control device that meets the requirements of one of the following:

(i) a carbon adsorption system designed and operated in a manner such that there is at least 90.0 percent removal of "volatile organic compounds" by weight over each each cycle from the gases ducted to the control device; or,

(ii) An incineration system that oxidizes at least 90.0 percent of the nonmethane "volatile organic compounds" (measured as total combustible carbon) per hour to carbon dioxide and water; or

(iii) an alternative "volatile organic compound" "emission" reduction system certified by the owner or "operator" to have at least a 90.0 percent reduction efficiency, per hour as measured across the control system, that has been approved by the "Commissioner."

(4) The provisions of this regulation do not apply to the production of specialty tires for antique or other vehicles when produced on an irregular basis or with short production runs. This exemption applies only to tires produced on equipment separate from normal production lines for passenger type tires.

(v) Graphic arts rotogravures and flexography.

(1) For the purpose of this subsection:

"Flexographic printing" means the application of words, designs or pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

"Packaging rotogravure printing" means rotogravure printing upon paper, paperboard, metal foil, plastic film or other substrates, which are, in subsequent operations, formed into packaging products or labels for articles to be sold.

"Publication rotogravure printing" means rotogravure printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements or other types of printed materials.

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

"Rotogravure printing" means the application of words, designs or pictures to a substrate by means of a roll printing technique which involves intaglio or recessed image areas in the form of cells or indentations.

(2) The owner or operator of a packaging rotogravure, publication rotogravure or flexographic printing facility subject to this regulation and employing solvent containing ink shall not cause, or permit the discharge into the atmosphere, of any volatile organic compounds unless:

(A) The volatile fraction of each ink, as it is applied to the substrate, contains 25.0 percent by volume or less of volatile organic compounds and 75.0 percent by volume or more of water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time; or

(B) Each ink as it is applied to the substrate, less water and exempt volatile organic compounds listed in 40 CFR 51.100(s) as amended from time to time, contains 60.0 percent by volume or more nonvolatile material; or

(C) The owner or operator installs and operates:

(i) A carbon adsorption system that reduces the volatile organic emissions from the capture system by at least 90.0 percent by weight over the adsorption cycle or 24 hours whichever is shorter,

(ii) An incineration system provided that 90.0 percent of the nonmethane volatile organic compounds (measured as total combustible carbon) that enter the incinerator per hour are oxidized to carbon dioxide and water, or

(iii) A system demonstrated to have control efficiency equivalent to or greater than the above required 90% (ninety percent) and approved by the commissioner by permit or order.

(3) A capture system shall be used in conjunction with the emission control systems in subdivision (2)(C) of this subsection. The design and operation of a capture system shall be consistent with good engineering practice, and shall provide for an overall reduction in volatile organic compound emissions per hour from each printing press of at least:

(A) 75.0 percent where a publication rotogravure process is employed;

(B) 65.0 percent where a packaging rotogravure process is employed; or,

(C) 60.0 percent where a flexographic printing process is employed.

(4) The provisions of this subsection apply to any printing line that has actual emissions of forty (40) pounds per day or more in any one day or to a premises which has potential emissions from all printing operations of fifty (50) tons or more per calendar year in an area designated as a serious nonattainment area for ozone or twenty-five (25) tons or more per calendar year in an area designated as a severe nonattainment area for ozone. Any printing line that is or becomes subject to the provisions of this subsection shall remain subject to the provisions of this subsection regardless of the daily actual emissions. Notwithstanding the foregoing provisions of this subdivision, the owner or operator of any piece of equipment that was not required to meet control requirements by this subsection prior to November 15, 1992 shall comply with the control requirements of this subsection for that piece of equipment no later than May 31, 1995.

(5) In lieu of requiring an owner or operator to implement reasonably available control technology pursuant to this subsection, the commissioner may, by permit or order, limit potential emissions of volatile organic compounds to:

(A) less than fifty (50) tons per calendar year in a serious nonattainment area for ozone; or

(B) less than twenty-five (25) tons per calendar year in a severe nonattainment area for ozone. The Commissioner may also limit in such permit or order actual emissions of volatile organic compounds from any printing line at such premises to less than forty (40) pounds per day.

(6) The commissioner shall not issue an order or permit limiting emissions of volatile organic compounds as provided in subdivision (5) of this subsection unless the owner or operator demonstrates, in writing, that actual emissions of volatile organic compounds, in each calendar year after December 31, 1989, did not exceed: fifty (50) tons per calendar year in a serious nonattainment area for ozone; or (b) twenty-five (25) tons per calendar year in a severe nonattainment area for ozone.

(7) To demonstrate that actual volatile organic compound emissions did not exceed the emission limitations described in subdivision (6) of this subsection, such owner or operator shall submit to the commissioner written documentation of the actual emissions of volatile organic compounds from all printing operations at such premises for every calendar year, or portion thereof, from December 31, 1989 through the calendar year in which such information is submitted. Such owner or operator shall also

submit to the commissioner the information specified in subsection (aa) of this section for every calendar year, or portion thereof, from December 31, 1989 through the calendar year in which such information is submitted. The owner or operator shall also include a certification with such information prepared and signed as required by section 22a-174-2a(a)(5) of the Regulations of Connecticut State Agencies.

(w) Dry cleaning facilities

(1) For the purpose of this subsection:

"Dry cleaning facility" means a facility engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of solvent by spinning, and drying by tumbling in an airstream. The facility includes but is not limited to any washer, dryer, filter and purification systems, waste disposal systems, holding "tanks," pumps, and attendant piping and valves. Dry cleaning facility includes those which are coin-operated and intended for general public use.

(2) The owner or "operator" of a dry cleaning facility which uses perchloroethylene shall;

(A) vent all dryer exhausts through carbon adsorption systems or equally effective control devices and maintain "emissions" of "volatile organic compounds" at all times no greater than 100 ppmv as measured before dilution.

(B) maintain all system components so as to prevent the leaking of liquid "volatile organic compounds" and where applicable, prevent perceptible vapor losses from gaskets, seals, ducts and related equipment;

(C) treat all diatomaceous earth filters so that the residue contains no greater than 25 Kg of volatile organic "emissions" per 100 Kg of wet waste material;

(D) reduce the "volatile organic compounds" from all solvent stills to no greater than 60 Kg per 100 Kg of wet waste material; and

(E) drain all filtration cartridges in the filter housing for at least 24 hours before discarding the cartridges such that volatile organic compounds are not emitted to the atmosphere.

(3) The provisions of subparagraph (2)(A) shall not apply to dry cleaning facilities which lack adequate space or sufficient steam capacity to accommodate adsorber systems, or any facility which could demonstrate economic hardship due to compliance with this subsection. An exemption pursuant to this subsection shall be approved at the discretion of the "Commissioner" and the administrator after demonstration by the owner or "operator" of applicability to the conditions of this exemption.

(4) Compliance with this section shall be determined by:

(A) a visual inspection, for subparagraphs (2)(B) and (2)(E) above; and

(B) a test consistent with EPA Guideline series document, "Measurement of Volatile Organic Compounds," EPA-450/2-78-041 or use of a system which has been demonstrated to meet the "emission" limits for subparagraph (2)(A) above; and

(C) Use of American Society for Testing and Materials (ASTM) Method D-322-67 for subparagraphs (2)(C) and (2)(D) above with the following modifications: a sample of the wet waste to be disposed of is taken from each of three different batches of waste materials; each of the three samples is analyzed using ASTM Method D322-67 modified by using a Bidwell-Sterling type distillation trap in place of a gasoline dilution trap and by adding a known sample mass to the sample flask instead of a known sample volume so as to obtain a percent by weight of perchloroethylene in the waste material.

(x) Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical & Polymer Manufacturing Equipment.

(1) Definitions. For purposes of this subsection:

"Canned pumps" means those pumps not having an externally activated shaft penetrating the pump housing.

"Fugitive emission source" means each pump, valve, safety/relief valve, open ended valve, flange or other connector, seals, compressor, or sampling system;

"Gaseous VOCs" means VOCs which are or will become entirely gaseous before reaching the ambient air;

"Hydrocarbon detector" means a portable hydrocarbon analyzer for identifying leaks of VOC and meets the criteria given in EPA Reference Method 21;

"In light liquid service" means that a component is in contact with a fluid containing 10% or greater light liquid by weight.

"In VOC service" means that a component is in contact with a fluid containing 10% or greater VOC by weight.

"Light liquids" means a fluid whose vapor pressure is greater than 0.044 psia (0.3 kilopascals) at 20ºC;

"Quarter" means a consecutive three month period beginning in either January, April, July or October;

"Synthetic Organic Chemical and Polymer Manufacturing" means the industry that produces, as intermediates or final products methyl tertbutyl ether (MTBE), polyethylene, polypropylene, polystyrene, one or more of the chemicals listed in 40 CFR Part 60.489 or such other industries as the "Commissioner" may determine to be sources of significant VOC leakage;

(2) Applicability.

Except as provided in subdivision (x)(13) of section 22a-174-20, on or after the effective date of this subsection, the provisions of subsection 22a-174-20(x) apply to synthetic organic chemical and polymer manufacturing facilities.

(3) Leak prevention.

The owner or operator of a synthetic organic chemical or polymer manufacturing facility shall not cause, allow, or permit any evidence of leakage as determined through the use of test methods required in subdivision (x)(8) of section 22a-174-20.

(4) Pump repair.

Except as provided in subparagraph (x)(13)(F) of section 22a-174-20, the owner or operator shall visually inspect every pump in light liquid service each week. If indications of liquid leakage are found, the pump shall be repaired within fifteen (15) days after detection except as provided in subdivision (x)(12) of section 22a-174-20. Record keeping under this subsection shall be required only for those pumps found leaking.

(5) Monitoring.

(A) Except as provided in subdivisions (x)(9) and (x)(13) of section 22a-174-20, the owner or operator shall monitor each pump, valve, compressor, and safety/relief valve in gas/vapor service or in light liquid service for gaseous leaks at least once each quarter. The owner or operator shall notify the Department's Air Compliance Unit of such monitoring at least ten (10) days prior to the scheduled monitoring. If there is evidence of leakage, the owner or operator shall repair the component within fifteen (15) days of detection, except as provided in subdivision (x)(12) of section 22a-174-20. The monitoring procedure shall be in accordance with EPA Method 21.

(B) Safety/relief valves shall be monitored after each over-pressure relief to ensure the valve has been properly reseated so that a concentration of volatile organic compounds is less than 1000 ppm. The monitoring procedure shall be in accordance with EPA Method 21.

(6) Requirements for an open-ended valve.

The owner or operator shall install on each open-ended valve or line a cap, a blind flange, a plug, or a second closed valve which must remain attached to seal the open ended valve at all times except during operations requiring process fluid flow through the open line except in circumstances, as approved by the “Commissioner” by permit or order, where this may cause a safety problem.

(7) Leak detection.

The owner or operator of any fugitive emission source which appears to be leaking on the basis of sight, smell, or sound shall repair such leak within fifteen (15) days after detection except as provided in subdivision (x)(10) of section 22a-174-20.

(8) Test methods.

The owner or operator of the source shall either use:

(A) a soap solution to detect gaseous VOCs leaks at all points of potential leakage where this test method is determined to be valid by the Commissioner or his representative and where any bubble formation during a three (3) minute observation period is deemed evidence of leakage; or

(B) a hydrocarbon detector test to detect gaseous VOCs and light liquid leaks where any measured concentration in excess of ten thousand (10,000) ppm is deemed to be evidence of leakage.

(9) Exemption from Quarterly Testing.

If after four consecutive quarters of monitoring less than two percent of the valves in gas/vapor or light liquid service show evidence of leakage then the owner or operator may monitor the valves for gaseous leaks only once a year during the third or fourth quarter. If the number of valves showing evidence of leakage remains at two percent or less, then these valves need only be monitored once a year during the third or fourth quarter. However, if more than two percent of these valves show evidence of leakage, they shall be monitored every quarter until four consecutive quarters are monitored which have no more than two percent of these valves showing evidence of leakage.

(10) Delaying repairs.

A request to delay a repair of a fugitive emission source until the next turnaround if the repair is infeasible for technical or safety reasons without a complete or partial shutdown of the process unit can be made to the Commissioner.

(11) Record keeping.

The owner or operator of the facility shall maintain for two (2) years records which will be available to Department personnel on request and shall include:

A) identification of the source being inspected or monitored;

B) dates of inspection or monitoring;

C) result of inspection or monitoring;

D) what action was taken if a leak was detected;

E) type of repair made and date of repair;

F) if the repair was delayed, an explanation as to why; and

G) test method.

(12) Notice and retests.

Any evidence of leakage as described in this subsection shall be treated as a malfunction of control equipment or methods as described in section 22a-174-7 of the Regulations of Connecticut State Agencies. A retest in accordance with the provisions of subdivision (8) of this subsection shall be performed not more than two business days after all required repairs are complete.

(13) Exemptions.

(A) The owner or operator of any facility exempted under 40 CFR Part 60.480(d) shall be exempt from subsection (x) of section 22a-174-20.

(B) When a fugitive emission source is unsafe to monitor because of extreme temperatures, pressure, or because it is more than 12 feet above a permanent support surface, or other reasons, the owner or operator may request a waiver from quarterly testing from the Commissioner who may allow monitoring less frequently than each quarter provided the source is monitored once a year.

(C) No monitoring will be required under conditions where no leakage can occur such as fugitive emission sources under vacuum. If such tests are run, leak free conditions will not be counted toward reductions in testing frequency.

(D) Safety relief valves that are isolated from the process by a frangible disc or rupture disc are exempted from the quarterly monitoring requirements of subparagraph (x)(5)(A) of section 22a-174-20 provided they are monitored on an annual basis.

(E) Canned pumps which have demonstrated compliance with 40 CFR Part 60.482-2(e)(2) may be exempted from the requirements of subparagraph (x)(5)(A) of section 22a-174-20 provided they meet the requirements of 40 CFR Part 60.482-2(e)(3).

(F) Canned pumps which have demonstrated compliance with 40 CFR Part 60.482-2(e)(2)are exempted from the provisions of subdivision (x)(4) of section 22a-174-20 provided they meet the requirements of 40 CFR Part 60.482-2(e)(3).

(y) Manufacture of Polystyrene Resins.

(1) Definitions. For purposes of this subsection:

"Continuous polystyrene resin manufacturing facility" means a facility that utilizes a continuous, co-polymerization process for the manufacture of polystyrene resin from styrene and other monomers and/or polymers.

"Styrene condenser vent stream" means the exhaust stream from the vacuum system on the vacuum devolatilizer condenser.

"Styrene recovery unit condenser vent stream" means the exhaust stream from a vacuum system on a styrene recovery system.

(2) Emission Standards.
On or after the effective date of this subsection the owner or operator of a continuous polystyrene resin manufacturing facility subject to this subsection shall not cause or permit the discharge of any volatile organic compounds in excess of 0.12 kg of VOC/1000 kg of product (0.24 lbs. of VOC/2000 lbs. of product) over any one (1) hour period in total from:

(A) the styrene condenser vent stream; and

(B) the styrene recovery unit condenser vent stream.

(3) Control Methods.

The owner or operator of a continuous polystyrene resin manufacturing facility subject to this subsection shall achieve the emission limitation by the use of:

(A) surface condensers; or

(B) a system demonstrated to have a control efficiency equivalent to or greater than the above, and approved by the Commissioner.

(4) Testing.

The owner or operator of the source shall determine compliance with this subsection by means of an emissions test made in accordance with the methods in subdivision (y)(6) of section 22a-174-20 and which has been approved by the Commissioner under the provisions of section 22a-174-5.

(5) Test Conditions.

The production rate during emission testing shall be determined from the current plant production records. If the plant production records show minor variation in the rate of polymer production, then an average or typical value may be used by the "Commissioner" when approving the test method under section 22a-174-5.

(6) Test Methods.

The emission rate for total volatile organic compounds measured as organic carbon per quantity of polystyrene produced shall be determined using either of the methods described in subparagraphs (y)(6)(A) or (y)(6)(B) of section 22a-174-20 as follows:

(A)

$$M = \frac{(C)(Qsd)}{S}$$

Where:

M = Emission of volatile organic compound emissions per quantity of product produced (Kg VOC/1000 Kg product).

C = Total gaseous non-methane organic concentration of the effluent (ppm carbon equivalent) as measured by method 25 as found at Appendix A of Title 40 Code of Federal Regulations Part 60.

Qsd = Dry volumetric stack gas flow rate corrected to standard conditions (dcsm/hr).

S = Production rate during the emission test (Kg/hr).

(B)

Where:

M = Emission of volatile organic compound emissions per quantity of product produced (Kg VOC/1000 Kg product).

Ci = Concentration of sample component i, (ppm) as measured by method 18 as found at Appendix A of Title 40 Code of Federal Regulations Part 60.

Wi = Molecular weight of sample component i, (g VOC/gmole VOC).

Qs = Volumetric stack gas flow rate corrected to standard conditions (scm/min).

S = Production rate during the emission test (Kg/hr).

(7) Record keeping.

(A) The owner or operator of the source shall monitor the operating parameters of the air pollution control equipment on the polystyrene production operation. The parameters monitored shall include, but not be limited to, the outlet temperature of the styrene condenser vent and the styrene recovery unit condenser vent or the outlet temperature of all condensers used to control these exhaust streams. The Commissioner may allow periodic monitoring if continuous monitoring is technologically or economically infeasible. The Commissioner may require additional monitoring as needed.

(B) The owner or operator of the source shall maintain monitoring records for a period of two years and shall make the records available to Department personnel upon request.

(z) [Reserved]

(aa) Record keeping requirements and test methods.

(1) The owner or "operator" of any premise subject to the provisions of subsections (m) through (r) inclusive and subsection (v) of section 22a-174-20 shall maintain daily records of all coatings and diluents used. Such records shall be kept for each individual machine, operation or coating line. The records must contain the information required below.

(A) description of the coating including the coating name and the coating density in pounds per gallon;

(B) "volatile organic compound" content by weight;

(C) water and exempt volatile organic compound content by weight;

(D) non-volatile content by volume and by weight;

(E) amount of each coating used in gallons;

(F) total amount of diluent used for each coating in pounds and in gallons.

(2) Any owner or "operator" may request sample forms from the "Commissioner."

(3) The owner or "operator" of any premise subject to the provisions of subdivision 22a-174-20(b)(1) shall maintain the following records for the premise:

(A) daily throughput of all volatile organic compounds having a vapor pressure of 1.5 pounds per square inch or greater under actual storage conditions; and

(B) records of both scheduled and unscheduled maintenance of the "vapor recovery system."

(4) The owner or "operator" of any premise subject to the provisions of subdivision 22a-174-20(b)(4) shall maintain the following records for the premise:

(A) daily throughput of all volatile organic compounds having a vapor pressure of 1.5 pounds per square inch or greater under actual storage conditions; and

(B) records of both scheduled and unscheduled maintenance of the "vapor balance system."

(5) The owner or "operator" of any premise subject to the provisions of subdivisions 22a- 174-20(b)(5) or (b)(6) shall maintain the following records for the premise:

(A) daily throughput of gasoline; and

(B) records of both scheduled and unscheduled maintenance of the "vapor balance system" and other system components.

(6) For determining the volatile content of surface coatings, the owner or "operator" of any premise subject to this section shall use either Reference Method 24 or 24A as found at Appendix A of Title 40 Code of Federal Regulations Part 60. When determining the volatile fraction of a coating using American Society for Testing and Materials method D-2369, the bake time must be one (1) hour.

(7) For determining the "volatile organic compound" emission control efficiency, the owner or "operator" of any premise subject to this section shall determine the removal efficiency of the control device by using reference methods 18, 25, 25A or 25B as found at Appendix A of Title 40 Code of Federal Regulations Part 60. The owner or "operator" of any premise subject to this section shall determine capture efficiency using a test method recommended or approved by the "administrator."

(8) The owner or "operator" of any "major stationary source" subject to this section shall continuously monitor and record the following:

(A) for thermal incinerators, the exhaust gas temperature.

(B) For catalytic incinerators, the exhaust gas temperature and the temperature rise across the catalyst bed.

(C) For condensers or refrigeration systems, the inlet temperature of the cooling medium and the exhaust gas temperature.

(D) For carbon absorbers, the pressure drop across the absorber and the hydrocarbon level needed to determine breakthrough.

(9) The owner or "operator" of any "stationary source" subject to this section which uses a catalytic incinerator to control the emission of "volatile organic compounds" shall record the date of each change of the catalyst in the bed.

(10) Copies of all records and reports required by subsection 22a-174-20(aa) must be kept at the source for a minimum of two years.

(bb) Compliance methods.

(1) The owner or "operator" of a "stationary source" subject to subsections (m) through (s) of Section 22a-174-20 inclusive, shall achieve the "emission" limit under the appropriate paragraph by:

(A) The application of low solvent content coating technology for each coating used; or

(B) Incineration, provided that a minimum of ninety (90) percent of the nonmethane "volatile organic compounds" (measured as total combustible carbon) which enter the "incinerator" are oxidized to carbon dioxide and water per hour and where the overall required efficiency is determined pursuant to subdivision (bb)(3) or (bb)(4); or

(C) A system demonstrated to have an hourly control efficiency equivalent to or greater than the above and approved by the "Commissioner" by permit or order.

(2) A capture system used in conjunction with the "emission" control systems in subparagraphs (bb)(1)(B) and (bb)(1)(C) of Section 22a-174-20 must be capable of collecting a minimum of ninety (90) percent of the "volatile organic compound" "emissions" from the "process source."

(3) In cases where control technology is the selected compliance option, the minimum overall reduction of "volatile organic compounds", required to demonstrate compliance with subsections (m) through (s) of Section 22a-174-20 inclusive, shall be the least stringent of the following:

(A) at least ninety-five (95) percent; or

(B) the amount necessary to reduce the hourly actual "volatile organic compound" emissions to less than the hourly allowable "volatile organic compound" emissions as determined in subdivision (6) of this subsection.

(4) If either the minimum capture system efficiency requirement or the minimum control efficiency requirement, specified above, cannot be reasonably demonstrated, the Commissioner may accept an averaged system efficiency providing the net emission rate is equal to or less than the emission rate which would result through compliance with the control system and capture system minimum efficiencies required by subdivisions (bb)(1) and (bb)(2) of Section 22a-174-20.

(5) Compliance proposals pursuant to subsection (cc) of Section 22a-174-20, alternative emission reduction plans, must utilize the calculation methods described by subdivision (bb)(3) of Section 22a-174-20 concerning solids-applied basis computations and the system efficiency requirements of subsections (bb)(1)(B) and (bb)(2) of Section 22a-174-20. For purposes of subsection (cc) of Section 22a-174-20, "allowable emissions" are based on the solids applied basis emissions rather than the minimum required system efficiency. If the emissions after the application of control equipment, represent a greater net

reduction of volatile organic compound emissions, the increased reduction may be used as a credit to offset excess emissions from nonconforming sources at the premise.

(6) To calculate hourly allowable "volatile organic compound" (VOC) emissions under subdivision (3) of this subsection, follow the steps in subparagraphs (A) through (D) below.

(A) Determine the discharge limit (in pounds of VOC per gallon of coating) for the surface coating operation in subsections 22a-174-20(m) through (s).

(B) Locate the discharge limit in the left hand column of Table 20(bb)-1 below.

(C) Locate the corresponding emission limit (in pounds of VOC per gallon of solids) from the right hand column of Table 20(bb)-1 below.

(D) Multiply the emission limit (in pounds of VOC per gallon of solids) by the hourly volume of solids applied (in gallons per hour) during the subject surface coating operation to yield the hourly allowable VOC emissions (in pounds per hour).

Table 20(bb)-1. Emission Factors for Volatile Organic Compounds for Solids Applied

Pounds of VOC Gallon of coating	Pounds of VOC Gallon of solids
1.7	2.21
2.6	4.02
2.8	4.52
2.9	4.79
3.0	5.07
3.5	6.68
3.7	7.44
3.8	7.85
4.2	9.79
4.3	10.34
5.5	21.74

(cc) Alternative emission reductions.

(cc)(1) The owner or "operator" of a "stationary source" subject to the provisions of subsections (m) through (v) inclusive and (ee) may submit for the consideration of the "Commissioner" an alternative emission reduction plan which would achieve the same net "emission" reduction as the owner or "operator" would achieve by having each "emission" source comply with the prescribed "emission limitations" provided in these regulations. Approval of the alternative plan is discretionary with the "Commissioner," but at a minimum, the owner or "operator" of the "stationary source" must demonstrate that:

(A) by means of an approved material balance or acceptable "emission" test, sufficient reductions in "volatile organic compound" "emissions" will be obtained by controlling other existing emission sources of similar "volatile organic compounds" within the "stationary source" to the extent necessary to compensate for all excess "emissions" which

result from one or more emission sources not achieving the prescribed "emission limitation." This demonstration must be submitted in writing and must include:

(i) A description of the emission source or "sources" which will not comply with the prescribed "emission limitations";

(ii) Pounds per hour of "volatile organic compounds" emitted which are in excess of permissible "emissions" for each emission source;

(iii) A description of each emission source and the related control systems if any, for those emission sources within the "stationary source" where "emissions" will be decreased to compensate for excess "emissions" from each emission source;

(iv) Pounds per hour of "volatile organic compounds", for each emission source both before and after the improvement or installation of any applicable control system, or any physical or operational changes at the facility to reduce "emissions" and the date on which these reductions will be achieved; and

(v) A description of the procedures and methods used to determine the "emissions" of "volatile organic compounds"; and

(B) The alternative emission reduction plan does not include decreases in "emissions" resulting from requirements of other applicable "air pollution" regulations. The alternative emission reduction plan may include decreases in "emissions" accomplished through installation or improvement of a control system or through physical or operational changes at the "stationary source" such as increased transfer efficiencies;

(C) The alternative emission reduction plan does not include provisions for the trade off of any "volatile organic compound" such as benzene which the "Administrator" or "Commissioner" has determined to be a hazardous material;

(D) The alternative emission plan does not delay or defer the compliance deadlines for any emission source or "sources"; and

(E) The alternative emission plan meets all the requirements of the "Emissions Trading Policy Statement" of the U.S. Environmental Protection Agency as specified in the December 4, 1986 Federal Register (51 FR 43814).

(2) The implementation of an alternative emission reduction plan instead of compliance with the emissions limitation prescribed in any one of subsections (m) through (v), inclusive, (ee) or (ff) to (kk), inclusive, of this section shall be expressly approved by the commissioner through the issuance of a permit or an order in accordance with the provisions of section 22a-174-12 of the Regulations of Connecticut State Agencies and approved by the Administrator in accordance with the provisions of 42 USC 7401-7642. After approval, any emissions in excess of those established for each emission source under the plan will be a violation of these regulations.

(3) Where it can be shown to the satisfaction of the commissioner that an emission source cannot be controlled to comply with any one of subsections (m) through (v), inclusive, (ee) or (ff) to (kk), inclusive, of this section for reasons of technological and economic feasibility, the commissioner may by permit or

order accept a lesser degree of control upon the submission of satisfactory evidence that the stationary source owner has applied Reasonably Available Control Technology and has a plan to develop the technologies necessary to comply with the applicable subsection of subsections (m) to (v), inclusive, (ee) or (ff) to (kk), inclusive, of this section and such action is approved by the Administrator in accordance with the provisions of 42 USC 7401-7642.

(dd) Seasonal operation of afterburners.

(dd)(1) The owner or "operator" of any "stationary source" which uses a natural gas-fired afterburner to meet the requirements of subdivisions (f)(1), (f)(2), (f)(4) or subsections (m) through (v) inclusive and (ee) may petition the "Commissioner" for permission to discontinue the operation of the afterburner during the months of November, December, January, February and March. The owner or "operator" shall submit the petition in writing and shall include the following information:

(A) Information on the nature and location of the facility of process for which the application is made;

(B) The type and quantity of "emissions" that will occur during the period of shutdown;

(C) The quantity of natural gas saved as a result of the shutdown;

(D) Any other relevant information the "Commissioner" may request in order to make a determination regarding the petition.

(dd)(2) The owner or "operator" of any "stationary source" for which a petition has been submitted in accordance with subdivision (dd)(1) shall:

(A) Publish by prominent advertisement in the "region" affected a notice that the petition has been submitted;

(B) Have made available for public inspection for thirty (30) days a copy of the petition.

(dd)(3) The "Commissioner" shall not grant a petition to discontinue the operation of a gas-fired afterburner which:

(A) Is required to meet the requirements of any other section of these regulations; or

(B) Will prevent or interfere with the "attainment" or maintenance of any federal or state "ambient air quality standard";

(iii) Has not met the requirements of subdivision (dd)(2).

(dd)(4) The "Commissioner" may attach any reasonable conditions he deems necessary or desirable to any approval of a petition under this subsection including but not limited to:

(A) Requirements for special control measures to be taken by the owner or "operator" to minimize "emissions" during the period of the petition;

(B) Requirements for periodic reports submitted by the owner or "operator" relating to "emissions," to compliance with any other conditions under which the petition is granted, or to any other relevant information the "Commissioner" deems necessary.

(dd)(5) Following the decision to approve or deny the petition the "Commissioner" shall cause an order to be issued in accordance with the provisions of section 22a-174-12.

(ee) Reasonably Available Control Technology for large sources. The owner or operator of any premises with potential emissions of volatile organic compounds shall use Reasonably Available Control Technology in accordance with the provisions of section 22a-174-32 of the Regulations of Connecticut State Agencies on each source to limit the discharge of volatile organic compounds unless all the sources emitting volatile organic compounds at such premises are regulated by:

(1) any one of the following subsections of section 22a-174-20 of the Regulations of Connecticut State Agencies: (a), (b), (*l*) through (y) or (ff) through (jj);

(2) section 22a-174-30 of the Regulations of Connecticut State Agencies; or

(3) an order to implement reasonably available control technology issued by the Commissioner pursuant to this subsection prior to November 15, 1992 and approved by the Administrator prior to May 31, 1995. An order or permit to limit potential emissions of volatile organic compounds to less than 100 tons per year for any twelve (12) consecutive months shall not be considered an order to implement Reasonably Available Control Technology.

(ff) Flexible package printing.

(1) Definitions. For the purpose of this subsection:

(A) "Capture efficiency" means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from operation of a flexible package printing press and related cleaning, expressed as a percentage;

(B) "Cleaning" means, with respect to a flexible package printing press or presses, cleaning of a press or press parts or the removal of dried ink from areas around the press. "Cleaning" does not include cleaning of electronic components, cleaning in platemaking or binding operations, housekeeping activity near a press or the use of a parts washer or cold cleaner;

(C) "Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

(D) "Flexible package" means any package or part of a package the shape of which may be readily changed. A "flexible package" includes any bag, pouch, liner or wrap made of paper, plastic, film, aluminum foil, or metalized or coated film or paper, alone or in combination. "Flexible package" does not include any folding carton, self-adhesive labels, gift wrap, wall covering, vinyl products, decorative laminates, floor coverings or tissue products;

(E) "Flexographic print station" means a work station on which a flexographic printing operation is conducted, which includes a flexographic printing plate and an image carrier made of rubber or other elastomeric material and where the image to be printed is raised above the printing plate;

(F) "Installation date" means an unchanging date that is the first date on which a piece of equipment is in place and prepared to operate;

(G) "Overall control efficiency" means the product of the capture efficiency and the control device efficiency;

(H) "Press" means a printing production assembly that is composed of one or more work stations, one or more of which is a flexographic or rotogravure print station, and that produces a printed product;

(I) "Rotogravure print station" means a work station on which a rotogravure printing operation is conducted. A rotogravure print station includes a cylinder and ink supply, and the image to be printed is etched or engraved below the surface of the cylinder;

(J) "Work station" means a unit on a press where material is deposited onto a substrate; and

(K) "As-applied VOC content" means the VOC content of an ink, coating, adhesive or cleaning solvent at the time of application to a substrate, including any solvent, catalyst or other substance added to the as-supplied ink, coating, adhesive or cleaning solvent. "As-applied VOC content" is determined using an EPA reference method, a California Air Resources Board reference method or other method approved by the commissioner.

(2) Applicability.

(A) The provisions of this subsection apply to the owner or operator of any flexible package printing press who purchases for the printing operation at least 855 gallons of coatings, adhesives, cleaning solvents and solvent-based inks in aggregate per any rolling 12-month period. Any owner or operator of a flexible package printing press shall:

(i) Comply with the requirements of this subsection no later than January 1, 2011, and

(ii) Remain subject to this subsection; and

(B) Any flexible package printing press operated pursuant to this subsection shall not be subject to subsection (v) of this section.

(3) Work practices. Each owner or operator shall use the following work practices:

(A) New and used VOC-containing ink, coating, adhesive or cleaning solvent, including ink or coating mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of VOC-containing ink, coating, adhesive or cleaning solvent shall be minimized. Any leaked or spilled VOC-containing ink, coating or cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with VOC-containing ink, coating, adhesive or solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(D) VOC-containing ink, coating, adhesive and cleaning solvent shall be conveyed from one location to another in a closed container or pipe.

(4) Additional requirements. The owner or operator of a flexible package printing press that has the potential to emit from the dryer, prior to controls, of at least 25 tons per year of VOC from the use of inks, coatings and adhesives combined shall, in addition to complying with the requirements of subdivision (3) of this subsection, use one of the following methods to control VOC emissions from such a press:

(A) Use only individual inks, coatings and adhesives with an as-applied VOC content that does not exceed 0.8 kg VOC/kg of solids (0.8 lb VOC/lb of solids) or 0.16 kg VOC/kg of materials (0.16 lb VOC/lb of materials);

(B) Use only inks, coatings and adhesives so that the daily weighted average of the VOC content of the inks, coatings and adhesives used in a single printing line does not exceed 0.8 kg VOC/kg of solids (0.8 lb VOC/lb of solids) or 0.16 kg VOC/kg of materials (0.16 lb VOC/lb of materials); or

(C) Install, operate and maintain in accordance with the manufacturer's recommendations, a capture and a control device that produce the overall control efficiency identified in Table 20(ff)-1, according to the date of installation of the press being controlled and the installation date of the air pollution control equipment.

(5) Records.

(A) An owner or operator of any flexible package printing press shall maintain records of the information described in subparagraph (B) of this subdivision. All such records shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(B) An owner or operator of a flexible package printing press shall maintain daily records of all inks, coatings, adhesives or cleaning solvents used, as follows:

(i) Name and description of each ink, coating, adhesive or cleaning solvent,

(ii) VOC content of each ink, coating, adhesive or cleaning solvent, as applied, and the associated calculations,

(iii) VOC content of each ink, coating, adhesive or cleaning solvent, as supplied,

(iv) The amount of each ink, coating, adhesive or cleaning solvent,

(v) A Material Safety Data Sheet for each ink, coating, adhesive or cleaning solvent,

(vi) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner, and

(vii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(C) Any owner or operator of any flexible package printing press who is not otherwise subject to the provisions of this subsection shall maintain material purchase records to verify that the provisions of this subsection do not apply to such owner or operator.

Table 20(ff)-1. Overall control efficiency levels

Installation date of press	***Installation date of the air pollution control device***	***Overall control efficiency (100%)***
Prior to March 14, 1995	***Prior to January 1, 2011***	***65***
Prior to March 14, 1995	***On and after January 1, 2011***	***70***
On and after March 14, 1995	***Prior to January 1, 2011***	***75***
On and after March 14, 1995	***On and after January 1, 2011***	***80***

(gg) Offset lithographic printing and letterpress printing

(1) Definitions. For the purpose of this subsection:

(A) "Capture efficiency" means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from offset lithographic or letterpress printing and related cleaning, expressed as a percentage;

(B) "Cleaning solvent" means a VOC-containing liquid used to remove ink and debris from the operating surfaces of the printing press and its parts;

(C) "Coldset" or "non-heatset" means a printing process in which the ink dries on the substrate through ordinary evaporation and absorption;

(D) "Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

(E) "Fountain solution" means, with respect to offset lithographic printing, a waterbased solution that contains small amounts of gum Arabic or synthetic resins, acids, buffer salts and a wetting agent or dampening aid applied to the image plate to reduce the surface tension of the solution;

(F) "Heatset" means a printing process in which ink is set by the evaporation of ink solvents or oils in a hot air dryer;

(G) "Letterpress printing" means a printing process in which the image area is raised relative to the non-image area, and the paste ink is transferred to the substrate directly from the image surface;

(H) "Lithographic printing" means a printing process in which the image and nonimage areas are chemically differentiated, *i.e.*, the image area is oil receptive and the non-image area is water receptive;

(I) "Offset lithographic printing" means a type of lithographic printing in which an ink film is applied to a lithographic plate and then transferred to an intermediary surface or blanket, and the image on the blanket is then transferred to a substrate, typically paper or paperboard;

(J) "Overall control efficiency" means the product of the capture efficiency and the control device efficiency;

(K) "Press" means a printing production assembly composed of one or more units used to produce a printed substrate including any associated coating, spray powder application or infrared heating units;

(L) "Sheet-fed printing" means, with respect to offset lithographic printing, a process in which individual sheets of paper or other substrate are fed to the press;

(M) "VOC composite partial vapor pressure" means the sum of the partial pressure of the compounds defined as VOCs;

(N) "Web printing" means, with respect to offset lithographic printing, a process where continuous rolls of substrate material are fed to the press and rewound or cut to size after printing; and

(O) "As-applied VOC content" means the VOC content of cleaning solvent, fountain solution or solvent-based ink at the time of application to a substrate, including any solvent, catalyst or other substance added to the as-supplied cleaning solvent, fountain solution or solvent-based ink. "As-applied VOC content" is determined using an EPA reference method, a California Air Resources Board reference method or other method approved by the commissioner.

(2) Applicability. The provisions of this subsection apply to the owner or operator of any offset lithographic or letterpress printing press who purchases for the printing operation at least 855 gallons of cleaning solvents, fountain solution additives and solvent-based inks in aggregate per any rolling 12-month period. Any owner or operator of an offset lithographic or a letterpress printing press shall:

(A) Comply with the requirements of this subsection no later than January 1, 2011; and

(B) Remain subject to this subsection.

(3) Fountain solutions.

(A) The owner or operator of a heatset web offset lithographic printing press with a fountain solution reservoir of at least one gallon in capacity shall:

(i) Limit the as-applied VOC content of the fountain solution to 1.6% by weight or less,

(ii) If the fountain solution is refrigerated to below 60ºF, limit the as-applied VOC content of the fountain solution to 3% by weight or less, or

(iii) Use fountain solution that contains no alcohol and limit the alcohol substitute content of the fountain solution to 5% by weight or less.

(B) The owner of a sheet-fed offset lithographic printing press with a minimum sheet size of greater than 11x17 inches and a fountain solution reservoir greater than one gallon in capacity shall:

(i) Limit the as-applied VOC content of the fountain solution to 5% by weight or less,

(ii) If the fountain solution is refrigerated to below 60ºF, limit the as-applied VOC content of the fountain solution to 8.5% or less, or

(iii) Use fountain solution that contains no alcohol and limit the alcohol substitute content of the fountain solution to 5% by weight or less.

(C) The owner of a coldset web offset lithographic printing press with a fountain solution reservoir of at least one gallon in capacity shall use a fountain solution that contains no alcohol and that has an alcohol substitute content of 5% by weight or less.

(4) Heatset web offset lithographic printing or heatset letterpress printing. Except heatset presses for book printing or heatset presses with a web width of 22 inches or less, the owner or operator of a heatset web offset lithographic or heatset letterpress printing press with the potential to emit at least 25 tons per year of VOC emissions from all dryers, prior to controls, shall operate air pollution control equipment to:

(A) Achieve a 90% overall control efficiency if the air pollution control equipment is installed prior to January 1, 2011;

(B) Achieve a 95% overall control efficiency if the air pollution control equipment is installed on or after January 1, 2011; or

(C) Reduce the control device outlet concentration to 20 parts per million as hexane on a dry basis if the inlet VOC concentration is so low that the control efficiency specified in subparagraph (A) or (B) of this subdivision cannot be achieved.

(5) Cleaning solvents. The owner or operator of an offset lithographic printing press or letterpress printing press:

(A) Shall use cleaning solvents that:

(i) Have composite vapor pressure less than 10 mmHg at 20°C, or

(ii) Have a VOC content less than 70% by weight.

(B) May in any twelve-month period use no more than 110 gallons of cleaning solvent that does not comply with subparagraph (A) of this subdivision.

(6) Work practices. Each owner or operator shall use the following work practices:

(A) New and used VOC-containing ink, fountain solution and cleaning solvent, including solvents mixed on the premises, shall be stored in a nonabsorbent, nonleaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of VOC-containing ink, fountain solution and cleaning solvent shall be minimized. Any leaked or spilled VOC-containing ink, fountain solution or cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with VOC containing ink, fountain solution or cleaning solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(D) VOC-containing ink, fountain solution and cleaning solvents shall be conveyed from one location to another in a closed container or pipe.

(7) Records.

(A) An owner or operator of any offset lithographic or letterpress printing press shall maintain records of the information described in subparagraph (B) of this subdivision. Such records shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(B) An owner or operator of an offset lithographic or a letterpress printing press shall maintain daily records of all cleaning solvents, fountain solution additives or solvent-based inks used, as follows:

(i) Name and description of each cleaning solvent, fountain solution additive or solvent-based ink,

(ii) VOC content of each cleaning solvent, fountain solution additive or solvent-based ink, as-applied, and the associated calculations,

(iii) VOC content of each cleaning solvent, fountain solution additive or solvent-based ink, as supplied,

(iv) The amount of each cleaning solvent, fountain solution additive or solvent-based ink,

(v) A Material Safety Data Sheet for each cleaning solvent, fountain solution additive or solvent-based ink,

(vi) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner, and

(vii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(C) Any owner or operator of any offset lithographic or letterpress printing press who is not otherwise subject to the provisions of this subsection shall maintain material purchase records to verify that the provisions of this subsection do not apply to such owner or operator.

(hh) Large appliance coatings.

(1) Definitions. For the purpose of this subsection:

(A) "Air dried" means cured at a temperature below 90° C (194ºF);

(B) "As-applied" means the composition of coating at the time it is applied to a surface, including any solvent, catalyst or other substance added to the coating as supplied by the manufacturer;

(C) "Baked" means cured at a temperature at or above 90°C (194ºF);

(D) "Capture efficiency" means the ratio of VOC emissions delivered to control device to the total VOC emissions resulting from large appliance coating and related cleaning, expressed as a percentage;

(E) "Cleaning solvent" means any VOC-containing liquid used in cleaning a large appliance coating operation;

(F) "Coating" means a material that is applied to a surface and that forms a continuous film in order to beautify or protect such surface;

(G) "Coating unit" means a series of one or more coating applicators and any associated drying area or oven wherein a coating is applied, dried or cured, including any drying area or oven where a coating is applied, dried or cured prior to any subsequent application of a different coating. A "coating unit" does not include any point other than the point where the coating is dried or cured;

(H) "Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

(I) "Dip coating" means a method of applying a coating to a surface by submersion into and removal from a coating bath;

(J) "Electrostatic application" means a method of applying coating particles or coating droplets to a grounded surface by electrically charging such particles or droplets;

(K) "Extreme high gloss coating" means a coating that, when tested by the most recent active version of the American Society for Testing Material Test Method D523, shows a reflectance of 75 or more on a 60 degree meter;

(L) "Extreme performance coating" means a coating used on a metal surface where the coated surface is, in its intended use, subject to one of the following conditions:

(i) Chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solution,

(ii) Repeated exposure to temperatures in excess of 121.1°C (250°F), or

(iii) Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleaners or scouring agents;

(M) "Flow coating" means a non-atomized technique of applying coating to a substrate using a fluid nozzle in a fan pattern with no air supplied to the nozzle;

(N) "Heat-resistant coating" means a coating that must withstand a temperature of at least 400° F during normal use;

(O) "HVLP spray application" means to apply a coating using a high-volume, low pressure application system that is designed to operate at air pressures between 0.1 and 10 pounds per square inch gauge, measured dynamically at the center of the air cap and the air horns;

(P) "Large appliance coating" means the application of a coating to a large appliance part or product during manufacture;

(Q) "Large appliance part" means any surface-coated metal lid, door, casing, panel or other interior or exterior metal part or accessory that is assembled to form a large appliance product;

(R) "Large appliance product" means any surface-coated large appliance including, but not limited to, a metal range, oven, microwave oven, refrigerator, freezer, washer, dryer, dishwasher, water heater or trash compactor manufactured for household, commercial or recreational use;

(S) "Metallic coating" means a coating that contains more than five grams of metal particle per liter of coating, as-applied;

(T) "Multi-component coating" means a coating requiring the addition of a separate reactive resin, such as a catalyst or hardener, before application to form an acceptable dry film;

(U) "One-component coating" means a coating that is ready for application as packaged for sale, except for the addition of a thinner to reduce the viscosity;

(V) "Overall control efficiency" means the product of the capture efficiency and the control device efficiency;

(W) "Pretreatment coating" means a coating, containing no more than 12% solids by weight and at least one-half percent acid by weight, applied directly to metal surfaces to provide surface etching, adhesion and ease when stripping;

(X) "Repair coating" means a coating used to recoat portions of a product that has sustained mechanical damage to the coating following normal painting operations;

(Y) "Roll coating" means a coating method using a machine that applies coating to a substrate by continuously transferring coating through a set of oppositely rotating rollers;

(Z) "Stencil coating" means an ink or a coating that is rolled or brushed onto a template or stamp to add identifying letters or numbers to metal parts or products;

(AA) "Solar-absorbent coating" means a coating which has, as its primary purpose, the absorption of solar radiation;

(BB) "Touch-up coating" means a coating used to cover minor coating imperfections appearing after the main coating operation; and

(CC) "As-applied VOC content" means the VOC content of cleaning solvent or coating at the time of application to a substrate, including any solvent, catalyst or other substance added to the as-supplied cleaning solvent or coating. "As-applied VOC content" is determined using an EPA reference method, a California Air Resources Board reference method or other method approved by the commissioner.

(2) Applicability. Except as provided in subdivision (3) of this subsection, the provisions of this subsection apply to an owner or operator of any large appliance coating unit who purchases for the coating operation at least 855 gallons of coatings and cleaning solvents in aggregate per any rolling 12-month period. Any such owner or operator shall:

(A) Comply with the requirements of this subsection no later than January 1, 2011; and

(B) Remain subject to this subsection.

(3) Exemptions and exceptions.

(A) The requirements of subdivision (5) of this subsection shall not apply to the following:

(i) Stencil coating,

(ii) Safety-indicating coating, as defined in subdivision (1) of subsection (p) of this section,

(iii) Solid-film lubricant, as defined in subdivision (1) of subsection (p) of this section,

(iv) Electric-insulating and thermal-conducting coating, as defined in subdivision (1) of subsection (p) of this section,

(v) Touch-up coating,

(vi) Repair coating, or

(vii) Coating applied with a hand-held aerosol can.

(B) The requirements of subdivision (4) of this subsection shall not apply to a person using air pollution control equipment, as specified in subdivision (5)(B) of this subsection, to comply with the requirements of this subsection.

(4) Application methods. A person shall not apply a VOC-containing coating to any large appliance part or product unless the coating is applied by one of the following methods using equipment operated in accordance with the specifications of the equipment manufacturer:

(A) Electrostatic application;

(B) Flow coating;

(C) Dip coating;

(D) Roll coating;

(E) HVLP spray application;

(F) Hand application; or

(G) Any other coating application method capable of achieving a transfer efficiency equivalent to or better than that provided by HVLP spray application. Any owner or operator using an application method pursuant to this subparagraph shall maintain records demonstrating the transfer efficiency achieved.

(5) Compliance options. Except as provided in subdivision (3) of this subsection, on and after January 2011, no owner or operator conducting large appliance coating shall apply any coating, inclusive of any VOC-containing materials added to the original coating supplied by the manufacturer, unless the owner or operator uses one of the following methods to control emissions of VOCs:

(A) Use only coatings with an as-applied VOC content no greater than the levels specified in Table 20(hh)-1, according to coating category and drying method, where:

(i) The VOC content limits of Table 20(hh)-1 apply to the volume of coating as-applied, less water and less exempt VOC, and

(ii) The VOC content limits of Table 20(hh)-1 may be met by averaging the VOC content of materials used on a single large appliance coating unit per a single day;

(B) Install, operate and maintain in accordance with the manufacturer's recommendations, a capture and a control device that produce an overall control efficiency of 90%; or

(C) With the approval of the commissioner and the EPA Administrator, use an alternative means to achieve a level of control equivalent to that required in subparagraph (A) or (B) of this subdivision. An owner or operator shall submit a request to the commissioner and the EPA Administrator to use an alternative means of compliance, and such request shall include:

(i) A description of the method,

(ii) A demonstration of the level of emissions control achieved, and

(iii) Any other information requested by the commissioner or the EPA Administrator.

(6) Work practices. Each owner or operator shall use the following work practices:

(A) New and used VOC-containing coating or cleaning solvent, including a coating mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of VOC-containing coating or cleaning solvent shall be minimized. Any leaked or spilled VOC-containing coating or cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with a VOC-containing coating or cleaning solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(D) VOC-containing coating and cleaning solvent shall be conveyed from one location to another in a closed container or pipe.

Table 20(hh)-1. As-Applied VOC Content Limits Per Volume of Coating (Excluding Water and Exempt VOCs) per Coating Category, Specific to the Drying Process

Coating Category	Baked		Air Dried	
	g/L	lb/gal	g/L	lb/gal
General, one component	275	2.3	275	2.3
General, multi-component	275	2.3	340	2.8
Extreme high gloss	360	3.0	340	2.8
Extreme performance	360	3.0	420	3.5
Heat-resistant	360	3.0	420	3.5
Metallic	420	3.5	420	3.5
Pretreatment	420	3.5	420	3.5
Solar-absorbent	360	3.0	420	3.5

(7) Records.

(A) An owner or operator of any large appliance coating unit shall maintain records of the information described in subparagraph (B) of this subdivision. Such records shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(B) An owner or operator of a large appliance coating unit shall maintain daily records of all coatings and cleaning solvents used, as follows:

(i) Name and description of each coating or cleaning solvent,

(ii) VOC content of each coating or cleaning solvent, as-applied, and the associated calculations,

(iii) VOC content of each coating or cleaning solvent, as supplied,

(iv) The amount of each coating or cleaning solvent,

(v) A Material Safety Data Sheet for each coating or cleaning solvent,

(vi) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner, and

(vii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(C) Any owner or operator of any large appliance coating unit who is not otherwise subject to the provisions of this subsection shall maintain material purchase records to verify that the provisions of this subsection do not apply to such owner or operator.

(ii) Industrial solvent cleaning.

(1) Definitions. For the purpose of this subsection:

(A) "Capture efficiency" means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from industrial solvent cleaning, expressed as a percentage;

(B) "Cleaning solvent" means any VOC-containing liquid, including a liquid impregnated wipe or towelette, used in cleaning;

(C) "Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

(D) "Industrial solvent cleaning" means the use of cleaning solvent to remove uncured adhesives, uncured inks, uncured coatings or contaminants such as dirt, soil or grease from parts, products, tools, machinery, equipment or work areas, where such parts, products, tools, machinery, equipment and work areas are incorporated into or used exclusively in manufacturing a product. "Industrial solvent cleaning" includes spray booth cleaning, cleaning of manufactured components, parts cleaning, cleaning of production equipment for maintenance or to prohibit cross-contamination, and cleaning of tanks, mixing pots, process vessels and lines. "Industrial solvent cleaning" does not include the cleaning of personal protection equipment, such as respirators.

(E) "Janitorial cleaning" means general and maintenance cleaning of building or facility components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, restrooms, furnishings, kitchens and exterior surfaces of office equipment. "Janitorial cleaning" includes graffiti removal. "Janitorial cleaning" does not include the cleaning of parts, products or equipment, where such parts, products or equipment are incorporated into or used exclusively in manufacturing a product. "Janitorial cleaning" excludes the cleaning of work areas, such as laboratory benches, where manufacturing or repair activity is performed;

(F) "Medical device" means an instrument, apparatus, implement, machine, gadget, appliance, implant, *in vitro* reagent or other similar or related article, including any component, part or accessory, which meets one of the following conditions:

(i) Recognized in the official National Formulary or the United States Pharmacopeia or any supplement thereto,

(ii) Intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment or prevention of disease, in persons or animals, or

(iii) Intended to affect the structure or function of the body of a person or animal, and which does not achieve its primary intended purposes through chemical action within or on such body and which is not dependent upon being metabolized for the achievement of its primary intended purposes;

(G) "Overall control efficiency" means the product of the capture efficiency and the control device efficiency;

(H) "Screen printing" means a method of creating an image by pressing ink through a screen or fabric to which a stencil has been applied and where the stencil openings determine the form and dimensions of the image; and

(I) "As-applied VOC content" means the VOC content of a cleaning solvent at the time of use, including any solvent, catalyst or other substance added to the as-supplied cleaning solvent. "As-applied VOC content" is determined using an EPA reference method, a California Air Resources Board reference method or other method approved by the commissioner.

(2) Applicability. Except as provided in subdivision (3) of this subsection, the provisions of this subsection apply to an owner or operator of any premises who purchases for use at the premises at least

855 gallons of cleaning solvents in aggregate per rolling 12-month period. Any owner or operator of such a premises shall:

(A) Comply with the requirements of this subsection no later than January 1, 2011; and

(B) Remain subject to this subsection.

(3) Exemptions and exceptions.

(A) The requirements of this subsection shall not apply to the use of cleaning solvent as follows:

(i) In janitorial cleaning,

(ii) At an aerospace manufacturing and rework operation or a wood furniture coating operation in accordance with an order or a permit issued pursuant to sections 22a-174-32(e) and 22a-174-20(cc) of the Regulations of Connecticut State Agencies,

(iii) To perform general solvent cleaning in accordance with an order issued pursuant to section 22a-174-20(ee) of the Regulations of the Connecticut State Agencies,

(iv) At any aerospace manufacturing and rework facility, provided that cleaning solvent is used in accordance with the requirements of 40 CFR 63.744, inclusive of exemptions,

(v) As surface preparation or cleanup solvent in accordance with section 22a-174-44 of the Regulations of Connecticut State Agencies,

(vi) Where the cleaning solvent is regulated pursuant to section 22a-174-40 of the Regulations of Connecticut State Agencies,

(vii) To perform industrial solvent cleaning where such cleaning or cleaning solvent is subject to one of the following subsections of this section: (*l*) through (y), (ff) through (hh), or (jj),

(viii) In cleaning, including surface preparation prior to coating, necessary to meet a standard or specification issued or approved by the United States Department of Defense, Federal Aviation Administration or other federal government entity. Any person claiming exemption pursuant to this clause shall maintain records of the standard or specification,

(ix) Associated with research and development,

(x) Associated with quality control or laboratory testing of coatings, inks or adhesives,

(xi) Associated with medical device manufacturing,

(xii) Associated with pharmaceutical manufacturing,

(xiii) That exceeds the applicable limit of subdivision (4)(A) of this subsection where the quantity used does not exceed 55 gallons per any twelve-month rolling aggregate. Any person claiming exemption pursuant to this clause shall record and maintain monthly records sufficient to demonstrate compliance with this exemption, or

(xiv) That exceeds the applicable limit of subdivision (4)(A) of this subsection, if approved by the commissioner and the EPA Administrator. Any request for approval shall be made in writing to the commissioner and EPA Administrator and shall include a description of the cleaning solvent and its VOC content, an explanation of why the cleaning solvent is necessary, quantification of the amount of the VOC that will be emitted as a result of the use of the noncompliant cleaning solvent and the time period over which the noncompliant solvent will be used.

(B) The requirements of subdivisions (4) and (6) of this subsection shall not apply to the use of cleaning solvent in a digital printing operation, where digital printing means a method of printing in which an electronic output device transfers variable data, in the form of an image, from a computer to a substrate.

(C) The limitations of subdivision (4)(A) of this subsection shall not apply to cleaning solvent used to clean screen printing equipment, if the cleaning solvent used has an as-applied VOC content that does not exceed 500 grams per liter (4.2 pounds per gallon).

(4) Control of emissions. Except as provided in subdivision (3) of this subsection, any owner or operator performing industrial solvent cleaning shall use one of the following methods to limit VOC emissions:

(A) Use only cleaning solvent that complies with one of the following limitations:

(i) As-applied, has a VOC content that does not exceed 50 grams per liter (0.42 lb/gal), or

(ii) As-applied, has a vapor pressure no greater than 8 mm Hg at 20°C; or

(B) Install, operate and maintain in accordance with the manufacturer's recommendations, air pollution control equipment that reduces uncontrolled VOC emissions to the atmosphere from any industrial solvent cleaning by an overall control efficiency of at least 85%.

(5) Work practices. Each owner or operator shall use the following work practices:

(A) New and used cleaning solvent, including those mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of cleaning solvent shall be minimized. Any leaked or spilled cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with cleaning solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(D) Cleaning solvent shall be conveyed from one location to another in a closed container or pipe.

(6) Records.

(A) An owner or operator conducting industrial solvent cleaning shall maintain records of the information described in subparagraph (B) of this subdivision. Such records shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(B) An owner or operator conducting industrial solvent cleaning shall maintain daily records of all cleaning solvents used, as follows:

(i) Name and description of each cleaning solvent,

(ii) VOC content of each cleaning solvent, as-applied, and the associated calculations,

(iii) VOC content of each cleaning solvent, as supplied,

(iv) The amount of each cleaning solvent,

(v) A Material Safety Data Sheet for each cleaning solvent,

(vi) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner, and

(vii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(C) Any owner or operator conducting industrial solvent cleaning who is not otherwise subject to the provisions of this subsection shall maintain materials purchase records to verify that the provisions of this subsection do not apply to such owner or operator.

(D) An owner or operator conducting industrial solvent cleaning subject to an exemption or exception in subdivision (3) of this subsection shall maintain records sufficient to verify the applicability of the exemption or exception.

(jj) Spray application equipment cleaning.

(1) Definitions. For the purpose of this subsection:

(A) "Capture efficiency" means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from spray application equipment cleaning, expressed as a percentage;

(B) "Cleaning solvent" means any VOC-containing liquid used to clean spray application equipment;

(C) "Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

(D) "Enclosed gun cleaner" means a device, used for cleaning spray application equipment, which has an enclosed cleaning solvent container and either:

(i) Is not open to the ambient air when in use and has a mechanism to force the cleaning solvent through the spray application equipment while the cleaner is in operation, or

(ii) Uses non-atomized solvent flow to flush the spray application equipment and collects and returns the discharged cleaning solvent to the enclosed container;

(E) "Medical device" means an instrument, apparatus, implement, machine, gadget, appliance, implant, *in vitro* reagent or other similar or related article, including any component, part or accessory, which meets one of the following conditions:

(i) Recognized in the official National Formulary or the United States Pharmacopeia or any supplement thereto,

(ii) Intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment or prevention of disease, in persons or animals, or

(iii) Intended to affect the structure or function of the body of a person or animal, and which does not achieve its primary intended purposes through chemical action within or on such body and which is not dependent upon being metabolized for the achievement of its primary intended purposes;

(F) "Overall control efficiency" means the product of the capture efficiency and the control device efficiency; and

(G) "Spray application equipment" means a hand-held device that creates an atomized mist of coating, or other liquid substance, and deposits the coating, or other liquid substance, on a substrate.

(H) "As-applied VOC content" means the VOC content of a cleaning solvent at the time of use, including any solvent, catalyst or other substance added to the as-supplied cleaning solvent. "As-applied VOC content" is determined using an EPA reference method, a California Air Resources Board reference method or other method approved by the commissioner.

(2) Applicability. Except as provided in subdivision (3) of this subsection, on and after January 1, 2011, the provisions of this subsection apply to an owner or operator of any spray application equipment.

(3) Exemptions and exceptions.

(A) The requirements of this subsection shall not apply to cleaning of spray application equipment as follows:

(i) Associated with automotive refinishing and conducted pursuant to section 22a-174-3b(d) of the Regulations of Connecticut State Agencies,

(ii) Pursuant to section 22a-174-44(d) of the Regulations of Connecticut State Agencies,

(iii) At any aerospace manufacturing and rework facility, provided that cleaning solvent is used in accordance with the requirements of 40 CFR 63.744, inclusive of exemptions,

(iv) Necessary to meet a standard or specification of the United States Department of Defense,

(v) Associated with research and development, quality control or laboratory testing, or

(vi) Associated with medical device manufacturing;

(B) The cleaning solvent VOC content limit of subparagraphs (B) through (D) of subdivision (4) of this subsection shall not apply to the cleaning of spray application equipment used in the assembly, repair and manufacture of submarines;

(C) Using cleaning solvent that exceeds the VOC content limitation of subparagraph (B), (C) or (D) of subdivision (4) of this subsection where the quantity of cleaning solvent used does not exceed 55 gallons in aggregate per any 12-month rolling period. Any person claiming exemption pursuant to this subparagraph shall record and maintain monthly records sufficient to demonstrate compliance with this exemption; and

(D) The cleaning solvent VOC content limitations of subparagraph (B), (C) or (D) of subdivision (4) of this subsection shall not apply, upon request to and approval by the commissioner. Any request for approval shall be made in writing to the commissioner and shall include a description of the noncompliant solvent and its VOC content, an explanation of why the noncompliant solvent is necessary, the aggregate amount in gallons or pounds of noncompliant solvent use anticipated in a 12-month period and the frequency of use of the noncompliant solvent.

(4) Control of emissions. An owner or operator shall clean spray application equipment in accordance with the requirements of one of the following subparagraphs:

(A) Using an enclosed gun cleaner that is maintained and operated in accordance with the manufacturer's recommendations and the following practices:

(i) Operate using an automated cycle, if applicable,

(ii) Inspect hoses regularly for leaks,

(iii) If a leak is discovered, repair as soon as practicable but no later than 15 days after discovery, and

(iv) Ensure the cover is properly closed;

(B) Using only cleaning solvent with an as-applied VOC content that does not exceed 50 grams per liter (0.417 lb/gal) by placing cleaning solvent in the pressure pot and forcing the solvent through the gun with the atomizing cap in place, without the use of atomizing air. Used cleaning solvent shall be directed into a vat, drum or other waste container that is closed when not in use;

(C) Using only cleaning solvent with an as-applied VOC content that does not exceed 50 grams per liter (0.417 lb/gal) by disassembling the spray gun and cleaning the components and associated hoses and pumps by hand in a vat, which shall remain closed at all times except when in use. Components and associated hoses and pumps may be soaked in a vat with a capacity no greater than 20 liters. Such a soaking vat shall remain closed during the soaking period, except when inserting or removing items;

(D) Using only cleaning solvent with an as-applied VOC content that does not exceed 50 grams per liter (0.417 lb/gal) by forcing cleaning solvent through the spray gun and directing the atomized solvent spray into a waste container that is fitted with a device to capture the resulting emissions; or

(E) Installing, operating and maintaining air pollution control equipment that reduces uncontrolled VOC emissions to the atmosphere from any spray application equipment cleaning by an overall control efficiency of at least 85%.

(5) Work practices. Each owner or operator shall use the following work practices:

(A) New and used cleaning solvent, including those mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of cleaning solvent shall be minimized. Any leaked or spilled cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper that are moistened with cleaning solvent shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling;

(D) Cleaning solvent shall be conveyed from one location to another in a closed container or pipe; and

(E) Air pollution control equipment shall be operated and maintained in accordance with the manufacturer's recommendations.

(6) Records.

(A) An owner or operator conducting spray application equipment cleaning shall maintain records of the information described in subparagraph (B) of this subdivision. Such records shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(B) An owner or operator conducting spray application equipment cleaning shall maintain daily records of all cleaning solvents used, as follows:

(i) Name and description of each cleaning solvent,

(ii) VOC content of each cleaning solvent, as-applied, and the associated calculations,

(iii) VOC content of each cleaning solvent, as supplied,

(iv) The amount of each cleaning solvent,

(v) A Material Safety Data Sheet for each cleaning solvent,

(vi) A description of the type of cleaning equipment and process,

(vii) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner, and

(viii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(C) An owner or operator that is conducting spray application equipment cleaning subject to an exemption or exception in subdivision (3) of this subsection shall maintain records sufficient to verify the applicability of the exemption or exception.

(kk) Pleasure craft coatings

(1) Definitions. For the purposes of this section, the following definitions apply:

(A) **"**Airless spray application" means a coating spray application system using high fluid pressure, without compressed air, to atomize the coating;

(B) "Air-assisted airless spray application" means a coating spray application system using fluid pressure to atomize the coating and low pressure air to adjust the shape of the spray pattern;

(C) "Antifouling coating" means a coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms;

(D) "Antifouling sealer or tie coat" means a coating applied over biocidal antifouling coating for the purpose of preventing release of biocides into the environment or to promote adhesion between an antifouling coating and a primer or another antifouling coating;

(E) "As applied" means the composition of coating, excluding water and exempt compounds, at the time it is applied to a surface, including any solvent, catalyst or other substance added to the coating;

(F) "Capture efficiency" means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from pleasure craft coating and related cleaning, expressed as a percentage;

(G) "Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

(H) "Electrostatic application" means a method of applying coating particles or coating droplets to a grounded surface by electrically charging such particles or droplets;

(I) "Exempt compound" means a carbon compound excluded from the definition of "volatile organic compound" as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies;

(J) "Extreme high-gloss coating" means a coating that, when tested by American Society for Testing Material Test Method D523-08, Standard Test Method for Specular Gloss, shows a reflectance of 90 or more on a 60 degree meter;

(K) "Finish primer or surfacer" means a coating applied with a wet film thickness of less than 10 millimeters 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;

(L) "Flow coating" means a non-atomized technique of applying coating in a fan pattern to a substrate using a fluid nozzle with no air supplied to the nozzle;

(M) "High build primer or surfacer" means a coating applied with a wet film thickness of 10 millimeters or more 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;

(N) "High gloss coating" means a coating that, when tested by American Society for Testing Material Test Method D523-08, Standard Test Method for Specular Gloss, shows a reflectance of 85 or more on a 60 degree meter;

(O) "HVLP spray application" means to apply a coating using a coating application system that uses lower air pressure and higher volume than conventional air atomized spray systems, where the manufacturer has represented that the system is HVLP by affixing a permanent label or through representations on the packaging or other product literature;

(P) "Overall control efficiency" means the product of the capture efficiency and the control device efficiency;

(Q) "Pleasure craft" means any marine or freshwater vessel manufactured or operated primarily for recreational purposes;

(R) "Pleasure craft coating" means any marine coating, except unsaturated polyester resin (fiberglass), applied to a pleasure craft or to parts and components of a pleasure craft;

(S) "Pretreatment wash primer" means a coating, containing at least 0.1 percent acid by weight and no more than 25 percent solids by weight, that is used to provide surface etching and is applied directly to fiberglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings;

(T) "Related cleaning" means the removal of uncured coatings, coating residue, and contaminants from:

(i) Pleasure craft or parts and components of pleasure craft prior to the application of coatings,

(ii) Pleasure craft or parts and components of pleasure craft between coating applications, or

(iii) Transfer lines, storage tanks, spray booths, and coating application equipment; and

(U) "Transfer efficiency" means the portion of coating solids that adheres to the pleasure craft surface during the application process, expressed as a percentage of the total volume of coating solids delivered by the applicator.

(2) Applicability.

(A) Except as provided in subdivision (3) of this subsection, the provisions of this subsection apply to the owner or operator of any marina, boat yard, or other premises where pleasure craft coating is applied for commercial purposes at the direction of such owner or operator, if:

(i) Such owner or operator was subject to subsection (s) of this section prior to January 1, 2013, or

(ii) Such owner or operator purchases for use in all pleasure craft coating and related cleaning at the premises 855 gallons or more of coatings and cleaning solvents in aggregate per rolling 12-month period;

(B) An owner or operator subject to this subsection shall:

(i) For a source operating prior to January 1, 2013, comply with the requirements of this subsection no later than January 1, 2013, or

(ii) For a source that commences operation after January 1, 2013, comply with the requirements of this subsection upon commencing operation; and

(C) Any owner or operator subject to this subsection shall remain subject to this subsection.

(D) An owner or operator of any marina, boat yard, or other premises where pleasure craft coating is applied for commercial purposes who does not meet the applicability thresholds of subparagraph (A) of this subdivision shall maintain either material purchase or actual usage records to verify that this subsection does not apply to such owner or operator.

(3) Exemptions and exceptions.

(A) The requirements of this subsection shall not apply to any of the following activities, and the VOC emissions resulting from the following activities shall not be included in determinations pursuant to subdivision (2) or (4)(E) of this subsection:

(i) Coating and cleaning subject to one of the following subsections of this section: (l) through (s) and (hh) through (jj),

(ii) Coating and associated surface preparation and cleanup subject to section 22a-174-41 of the Regulations of Connecticut State Agencies,

(iii) Coating applied with a hand-held aerosol can,

(iv) Application of adhesive, sealant, adhesive primer or sealant primer regulated by section 22a-174-44 of the Regulations of Connecticut State Agencies,

(v) Coating applied to test materials, test panels and coupons in research and development, quality control or performance testing,

(vi) Use of coatings containing VOC at concentrations less than 1.0 percent by weight, or

(vii) Use of cleaning solvents containing VOC at concentrations less than 5.0 percent by weight.

(B) An owner or operator operating pursuant to an exception or exemption provided in subparagraph (A) of this subdivision shall maintain records sufficient to verify the applicability of the exception or exemption.

(C) An owner or operator may use in aggregate in any 12 consecutive months no more than 55 gallons of pleasure craft coatings that exceed the VOC content limits or emission limits of subdivision (4) of this subsection.

(4) On and after January 1, 2013, no owner or operator of a pleasure craft coating operation shall apply any coating, inclusive of any VOC-containing material added to the original coating supplied by the manufacturer, unless the owner or operator controls emissions of VOCs in accordance with subparagraph (A), (B), (C), (D) or (E) of this subdivision. If more than one emission limit or emission rate applies in a particular situation, then the least restrictive limit or rate shall apply. An owner or operator shall:

(A) Use only coatings that have an as applied VOC content no greater than the applicable level in Table 20(kk)-1;

(B) Use a combination of low-VOC coatings and add-on air pollution control equipment to achieve a VOC emission rate no greater than the applicable level in Table 20(kk)-2;

(C) Install, operate and maintain according to the manufacturer's recommendations air pollution control equipment with an overall control efficiency of at least 90%;

(D) Use an alternative means, achieving a level of control equivalent to subparagraph (A), (B) or (C) of this subdivision, as requested from and approved by the commissioner, in accordance with subsection (cc) of this section; or

(E) Limit the total potential VOC emissions from all pleasure craft coating operations and related cleaning by permit or order of the commissioner to 1,666 pounds or less in any calendar month.

(5) Application methods. Except as provided in subdivision (3) of this subsection, an owner or operator shall not apply a VOC-containing coating to a pleasure craft or to a part or component of a pleasure craft unless the coating is applied by one of the methods identified in subparagraphs (A) through (F) of this subdivision using equipment operated in accordance with the specifications of the equipment manufacturer:

(A) Electrostatic application;

(B) HVLP spray application;

(C) Airless spray application;

(D) Air-assisted airless spray application;

(E) Hand application; or

(F) Any other coating application method capable of achieving a transfer efficiency equivalent to or better than that provided by HVLP spray application. Any coating operation using an application method pursuant to this subparagraph shall maintain records demonstrating the transfer efficiency achieved.

(G) The requirements of this subdivision shall not apply to the application of an extreme high gloss coating.

(6) Work practices. Each owner or operator shall use the following work practices:

(A) New and used VOC-containing coating, diluent or cleaning solvent, including a coating mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of VOC-containing coating, diluent or cleaning solvent shall be minimized. Any leaked or spilled VOC-containing coating, diluent or cleaning solvent shall be contained, absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with a VOC-containing coating or solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(D) VOC-containing coating, diluent and cleaning solvent shall be conveyed from one location to another in a closed container or pipe.

(7) Records.

(A) Except as provided in subparagraphs (B) and (C), an owner or operator shall maintain records of information sufficient to determine compliance with the applicable requirements of this subsection, including, at a minimum, the following information for each calendar month:

(i) Name and description of each coating and cleaning solvent,

(ii) VOC content of each coating and diluent, as applied, and the associated calculations,

(iii) VOC content of each coating or cleaning solvent, as supplied,

(iv) The amount of each coating and cleaning solvent:

(I) Purchased, or

(II) Used,

(v) A Material Safety Data Sheet, Environmental Data Sheet, Certified Product Data Sheet, or an equivalent data sheet for each coating and cleaning solvent,

(vi) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner and the Administrator, and

(vii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(B) All records made pursuant to this subdivision shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(8) Compliance procedures.

(A) The VOC content limits of Table 20(kk)-1 apply to the volume of coating as applied, determined using the following equation:

$$VOC\ Content = (Ws - Ww - Wes)/(Vm - Vw - Ves)$$

Where:

Ws	=	weight of volatile compounds in grams
Ww	=	weight of water in grams
Wes	=	weight of exempt compounds in grams
Vm	=	volume of coating in liters
Vw	=	volume of water in liters
Ves	=	volume of exempt compounds in liters

(B) The VOC emission rate limits of Table 20(kk)-2 apply to the mass of VOC emitted per volume of coating solids, as applied.

(C) To determine the properties of a coating or components thereof in order to perform the calculations required pursuant to subparagraph (A) of this subdivision or to verify calculations based on the manufacturer's formulation data, the VOC and solids content of all coatings shall be determined using 40 CFR 60, Appendix A, Reference Method 24 or an equivalent method. In the case of a dispute, the VOC content determined using Reference Method 24 shall control, unless a person is able to demonstrate to the satisfaction of the commissioner and the Administrator that the manufacturer's formulation data are correct.

(D) Where a VOC content limit or emissions rate is provided in metric units and equivalent English units, the limit or rate in metric units defines the standard. The English units are provided for information only.

(E) A pleasure craft coating shall be defined and categorized based on the manufacturer's representations as set out on the container or label or in information provided by the manufacturer of such a pleasure craft coating.

Table 20(kk)-1 Pleasure Craft Coating VOC Content Limits		
Coating Category	**g VOC/liter coating**	**lbs VOC/gal coating**
Extreme high-gloss coating	600	5.0
High gloss coating	420	3.5
Pretreatment wash primer	780	6.5
Finish primer or surfacer	Effective until December 31, 2015: 600 Effective January 1, 2016: 420	Effective until December 31, 2015: 5.0 Effective January 1, 2016: 3.5
High build primer or surfacer	340	2.8
Antifouling coating – aluminum substrate	560	4.7
Antifouling coating – all other substrates	400	3.3
Antifouling sealant or tie coat	420	3.5
All other pleasure craft surface coatings for metal or plastic	420	3.5

Table 20(kk)-2 Pleasure Craft Surface Coating VOC Emission Rate Limits		
Coating Category	**g VOC/liter solids**	**lbs VOC/gal solids**
Extreme high-gloss coating	1100	9.2
High gloss coating	800	6.7
Pretreatment wash primer	6670	55.6
Finish primer or surfacer	Effective until December 31, 2015: 1870 Effective January 1, 2016: 800	Effective until December 31, 2015: 15.59 Effective January 1, 2016: 6.7
High build primer or surfacer	550	4.6
Antifouling coating – aluminum substrate	1530	12.8
Antifouling coating – all other substrates	764	6.4
Antifouling sealer or tie coat	800	6.7
All other pleasure craft surface coatings for metal or plastic	800	6.7