SECTION .0900 - VOLATILE ORGANIC COMPOUNDS

15A NCAC 02D .0901 DEFINITIONS

For the purpose of this Section, the following definitions shall apply:

(1) "Coating" means a functional, protective, or decorative film applied in a thin layer to a surface.

(2) "Coating applicator" means an apparatus used to apply a surface coating.

(3) "Coating line" means one or more apparatus or operations in a single line at which point a surface coating is applied, dried, or cured and that include a coating applicator and flashoff area and may include an oven or associated control devices.

(4) "Continuous vapor control system" means a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation.

(5) "Delivered to the applicator" means the condition of coating after dilution by the user just before application to the substrate.

(6) "Flashoff area" means the space between the application area and the oven.

(7) "High solids coating" means a coating that contains a higher percentage of solids and a lower percentage of volatile organic compounds and water than conventional organic solvent borne coatings.

(8) "Hydrocarbon" means any organic compound of carbon and hydrogen only.

(9) "Incinerator" means a combustion apparatus designed for high temperature operation in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned efficiently and from which the solid and gaseous residues contain little or no combustible material.

(10) "Intermittent vapor control system" means a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device shall treat the accumulated vapors only during automatically controlled cycles.

(11) "Loading rack" means an aggregation or combination of loading equipment arranged so that all loading outlets in the equipment can be connected to a cargo tank parked in a specified loading space.

(12) "Low solvent coating" means a coating that contains a substantially lower amount of volatile organic compounds than conventional organic solvent borne coatings; it typically falls into one of three major groups of high solids, waterborne, or powder coatings.

(13) "Organic material" means a chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

(14) "Oven" means a chamber used to bake, cure, polymerize, or dry a surface coating using heat.

(15) "Potential emissions" means the quantity of a pollutant that would be emitted at the maximum capacity of a stationary source to emit the pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is described or contained as a condition in the federally enforceable permit. Secondary emissions do not count in determining potential emissions of a stationary source. Fugitive emissions count, to the extent quantifiable, in determining the potential emissions only in these cases:

(a) petroleum refineries;

(b) chemical process plants; and

(c) petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels.

(16) "Prime coat" means the first film of coating applied to a surface to protect it or to prepare it to receive subsequent coatings.

(17) "Reasonably available control technology" also denoted as "RACT," means the lowest emission limit a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. It may require technology that has been applied to similar source categories.

(18) "Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids, except liquefied petroleum gases as determined by American Society for Testing and Materials test method D323-15A.

(19) "Shutdown" means the cessation of operation of a source or a part thereof or emission control equipment.

(20) "Solvent" means organic materials that are liquid at standard conditions and used as dissolvers, viscosity reducers, or cleaning agents.

(21) "Standard conditions" means a temperature of 68 degrees Fahrenheit and pressure of 29.92 inches of mercury.

(22) "Stage I" means vapor control systems that minimize, collect, and transfer vapors in a gasoline storage tank that have been displaced by the incoming gasoline. The vapors are routed through pipes and hoses back into the cargo tank to be transported to where the tank is loaded and the vapors are recovered or destroyed. Vent lines on storage tanks with vapor control systems shall use pressure release valves or flow restrictors to minimize releases to the atmosphere.

(23) "Startup" means the setting in operation of a source or emission control equipment.

(24) "Substrate" means the surface to which a coating is applied.

(25) "Topcoat" means the final films of coating applied in a multiple or single coat operation.

(26) "True vapor pressure" means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Manual of Petroleum Measurement Standards, Chapter 19.2, Evaporative Loss From Floating-Roof Tanks. This American Petroleum Institute document is incorporated by reference and shall include any subsequent amendments or editions. This document may be obtained at https://www.apiwebstore.org/publications/item.cgi?43bface1-2adf-4234-90a8-ee6089c04f9a at a cost of two hundred ten dollars ($210.00).

(27) "Vapor collection system" means a vapor transport system that uses direct displacement by the liquid loaded into the tank to force vapors from the tank into a vapor control system.

(28) "Vapor control system" means a system that prevents release to the atmosphere of 90 percent or more by weight of organic compounds in the vapors displaced from a tank during the transfer of gasoline.

(29) "Volatile organic compound" also denoted as "VOC," means any compound of carbon whose volatile content can be determined by the procedure described in 15A NCAC 02D .2600, excluding any compound that is listed under 40 CFR 51.100(s) as having been determined to have negligible photochemical reactivity.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. January 1, 2009; June 1, 2008; July 1, 1996; December 1, 1993; July 1, 1991; March 1, 1991; December 1, 1989;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0902 APPLICABILITY

(a) The rules in this Section shall not apply except as specifically set out in this Rule.

(b) This Section applies to sources that emit greater than or equal to 15 pounds of volatile organic compounds per day unless specified otherwise in this Section.

(c) Rules 15A NCAC 02D .0925, .0926, .0927, .0928, .0931, .0932, .0933, and .0958 apply regardless of the level of emissions of volatile organic compounds unless the provisions specified in Paragraph (d) of this Rule are applied.

(d) This Section does not apply to:

(1) sources that emit less than 800 pounds of volatile organic compounds per calendar month and that are:

(A) bench-scale, on-site equipment used exclusively for chemical or physical analysis for quality control purposes, staff instruction, water or wastewater analyses, or non-production environmental compliance assessments;

(B) bench-scale experimentation, chemical or physical analyses, training or instruction from not-for-profit, non-production educational laboratories;

(C) bench-scale experimentation, chemical or physical analyses, training or instruction from hospitals or health laboratories pursuant to the determination or diagnoses of illness; or

(D) research and development laboratory activities, provided the activity produces no commercial product or feedstock material; or

(2) emissions of volatile organic compounds during startup or shutdown operations from sources that use incineration or other types of combustion to control emissions of volatile organic compounds whenever the off-gas contains an explosive mixture during the startup or shutdown operation if the exemption is approved by the Director as meeting the requirements of this Subparagraph.

(e) The following rules of this Section apply to facilities located statewide:

(1) 15A NCAC 02D .0925, Petroleum Liquid Storage in Fixed Roof Tanks, for fixed roof tanks at gasoline bulk plants and gasoline bulk terminals;

(2) 15A NCAC 02D .0926, Bulk Gasoline Plants;

(3) 15A NCAC 02D .0927, Bulk Gasoline Terminals;

(4) 15A NCAC 02D .0928, Gasoline Service Stations Stage I;

(5) 15A NCAC 02D .0932, Gasoline Cargo Tanks and Vapor Collection Systems;

(6) 15A NCAC 02D .0933, Petroleum Liquid Storage in External Floating Roof Tanks, for external floating roof tanks at bulk gasoline plants and bulk gasoline terminals;

(7) 15A NCAC 02D .0948, VOC Emissions from Transfer Operations; and

(8) 15A NCAC 02D .0949, Storage of Miscellaneous Volatile Organic Compounds.

(f) Except as provided in Paragraphs (c) and (e) of this Rule, the rules in this Section apply to facilities subject to Section 182(b)(2) of the Clean Air Act with potential to emit 100 or more tons per year of VOC and to facilities with potential to emit less than 100 tons per year of volatile organic compounds in categories for which the United States Environmental Protection Agency has issued Control Technique Guidelines that are located in the following moderate nonattainment areas for the 1997 8-hour ambient air quality standard for ozone as designated in 40 CFR 81.334 prior to January 2, 2014:

(1) Cabarrus County;

(2) Gaston County;

(3) Lincoln County;

(4) Mecklenburg County;

(5) Rowan County;

(6) Union County; and

(7) Davidson Township and Coddle Creek Township in Iredell County.

These facilities are subject to reasonably available control technology requirements under this Section and shall comply with the requirements in 15A NCAC 02D .0909 through .0951 and with 15A NCAC 02D .0958.

(g) If any county or part of a county to which this Section applies is later designated in 40 CFR 81.334 as attainment and becomes a maintenance area for the 1997 8-hour ambient air quality standard for ozone, all sources in that county or part of county subject to Paragraph (f) of this Rule that achieved compliance in accordance with 15A NCAC 02D .0909 shall continue to comply with this Section. Facilities with potential to emit less than 100 tons of volatile organic compounds per year, where the compliance date in 15A NCAC 02D .0909 has not passed before redesignation of the area to attainment for the 1997 ozone standard, shall comply in accordance with Paragraph (h) of this Rule.

(h) If a violation of the 1997 ambient air quality standard for ozone occurs when the areas listed in Paragraph (f) of this Rule become ozone maintenance area, no later than 10 days after the violation occurs, the Director shall initiate technical analyses to determine the control measures needed to attain and maintain the 1997 8-hour ambient air quality standard for ozone. By the following May 1, the Director shall implement the specific stationary source control measures contained in this Section that are required as part of the control strategy necessary to bring the area into compliance and to maintain compliance with the 1997 8-hour ambient air quality standard for ozone. The Director shall implement the rules in this Section identified as being necessary by the analyses by notice in the North Carolina Register. The notice shall identify the rules that are to be implemented and shall identify whether the Rules implemented are to apply in the areas listed in Paragraph (f) of this Rule. At least one week before the scheduled publication date of the North Carolina Register containing the Director's notice implementing rules in this Section, the Director shall send written notification to all permitted facilities within the counties in which the rules of this Section are being implemented notifying them that they are or may be subject to the requirements defined in 15A NCAC 02D .0909.

For the purpose of notifying permitted facilities in Mecklenburg County, "Director" means the Director of the Mecklenburg County local air pollution control program.

(i) Sources whose emissions of volatile organic compounds are not subject to limitation under this Section may still be subject to emission limits on volatile organic compounds in 15A NCAC 02D .0524, .1110, and .1111.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 143-215.107(a)(7)*
Eff. July 1, 1979;
Amended Eff. November 1, 2016; May 1, 2013; September 1, 2010; January 1, 2009; July 1, 2007; March 1, 2007; August 1, 2004; July 1, 2000; April 1, 1997; July 1, 1996; July 1, 1995; May 1, 1995; July 1, 1994;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0903 RECORDKEEPING: REPORTING: MONITORING

(a) The owner or operator of any volatile organic compound emission source or control equipment shall:

(1) install, operate, and maintain process and control equipment monitoring instruments or procedures as necessary to comply with the requirements of this Section; and

(2) maintain written data and reports relating to monitoring instruments or procedures that document the compliance status of the volatile organic compound emission source or control equipment. Such data and reports shall be maintained daily unless otherwise specified in this Section.

(b) The owner or operator of any volatile organic compound emission source or control equipment subject to the requirements of this Section shall comply with the monitoring, recordkeeping, and reporting requirements in 15A NCAC 02D .0600.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. May 1, 2013; April 1, 1999; July 1, 1993; July 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0904 MALFUNCTIONS: BREAKDOWNS: UPSETS

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);*
Eff. July 1, 1979;
Repealed Eff. March 1, 1983.

15A NCAC 02D .0905 PETITION FOR ALTERNATIVE CONTROLS

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. January 1, 1985; July 1, 1980;
Repealed Eff. July 1, 1988.

15A NCAC 02D .0906 CIRCUMVENTION

(a) An owner or operator subject to this Section shall not build, erect, install, or use any article, machine, equipment, process, or method that conceals an emission that would otherwise constitute a violation of an applicable rule in this Section.

(b) Paragraph (a) of this Rule includes the use of gaseous dilutants to achieve compliance and the piecemeal carrying out of an operation to avoid coverage by a rule that applies only to operations larger than a specified size.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0907 COMPLIANCE SCHEDULES FOR SOURCES IN NONATTAINMENT AREAS

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. May 1, 1995; July 1, 1994; January 1, 1985; July 1, 1980;
Repealed Eff. April 1, 1997.

15A NCAC 02D .0908 EQUIPMENT MODIFICATION COMPLIANCE SCHEDULES

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. January 1, 1985; July 1, 1980;
Repealed Eff. July 1, 1988.

15A NCAC 02D .0909 COMPLIANCE SCHEDULES FOR SOURCES IN OZONE NONATTAINMENT AND MAINTENANCE AREAS

(a) Applicability. This Rule applies to sources located at any facility covered by Paragraphs (f) and (h) of 15A NCAC 02D .0902.

(b) Exceptions. This Rule does not apply to facilities subject to 15A NCAC 02D .0902(e). Facilities subject to 15A NCAC 02D .0902(e) shall comply with the provisions of those Rules rather than the schedule in Paragraphs (c) and (d) of this Rule.

(c) Maintenance area contingency plan. The owner or operator of any source subject to this Rule shall adhere to the following increments of progress and schedules:

(1) If compliance with applicable rules in this Section is to be achieved by installing emission control equipment, replacing process equipment, or modifying existing process equipment:
   (A) The owner or operator shall submit a permit application and a compliance schedule within six months after the Director notices the implementation of rules in the North Carolina Register that resolves a violation of the ambient air quality standard for ozone;
   (B) The compliance schedule shall contain the following increments of progress:
      (i) a date by which contracts for the emission control system and process equipment shall be awarded or orders shall be issued for purchase of component parts;
      (ii) a date by which on-site construction or installation of the emission control and process equipment shall begin; and
      (iii) a date by which on-site construction or installation of the emission control and process equipment shall be completed; and
   (C) Final compliance with applicable rules in this Section shall be achieved within three years after the Director notices the implementation of rules in the North Carolina Register that resolves a violation of the ambient air quality standard for ozone.

(2) If compliance with applicable rules in this Section is to be achieved by using low solvent coating technology:
   (A) The owner or operator shall submit a permit application and a compliance schedule within six months after the Director notices the implementation of rules in the North Carolina Register that resolves a violation of the ambient air quality standard for ozone;
   (B) The compliance schedule shall contain the following increments of progress:
      (i) a date by which purchase orders shall be issued for low solvent coatings and process modifications;
      (ii) a date by which process modifications shall be initiated; and
      (iii) a date by which process modifications shall be completed and use of low solvent coatings shall begin; and
   (C) Final compliance with applicable rules in this Section shall be achieved within two years after the Director notices the implementation of rules in the North Carolina Register that resolves a violation of the ambient air quality standard for ozone.

(3) The owner or operator shall certify to the Director within five days after each increment deadline of progress defined in this Paragraph, whether the required increment of progress has been met.

(d) Moderate nonattainment areas. The owner or operator of any source subject to this Rule shall adhere to the following increments of progress and schedules:

(1) If compliance with applicable rules in this Section is to be achieved by installing emission control equipment, replacing process equipment, or modifying existing process equipment:
   (A) The owner or operator shall submit a permit application and a compliance schedule by August 1, 2007;
   (B) The compliance schedule shall contain the following increments of progress:
      (i) a date by which contracts for the emission control system and process equipment shall be awarded or orders shall be issued for purchase of component parts;
      (ii) a date by which on-site construction or installation of the emission control and process equipment shall begin; and
      (iii) a date by which on-site construction or installation of the emission control and process equipment shall be completed; and
   (C) For facilities with potential to emit 100 tons or more of volatile organic compounds per year, final compliance with applicable rules in this Section shall be achieved no later than April 1, 2009.

(D) For facilities with potential to emit less than 100 tons of volatile organic compounds per year, final compliance with applicable rules in this Section shall be achieved no later than May 1, 2016.

(2) If compliance with applicable rules in this Section is to be achieved by using low solvent coating technology:

(A) The owner or operator shall submit a permit application and a compliance schedule by August 1, 2007;

(B) The compliance schedule shall contain the following increments of progress:

(i) a date by which purchase orders shall be issued for low solvent coatings and process modifications;

(ii) a date by which process modifications shall be initiated; and

(iii) a date by which process modifications shall be completed and use of low solvent coatings shall begin; and

(C) Final compliance with applicable rules in this Section shall be achieved no later than April 1, 2009;

(D) For facilities with potential to emit less than 100 tons of volatile organic compounds per year, final compliance with applicable rules in this Section shall be achieved no later than May 1, 2015.

(3) The owner or operator shall certify to the Director within five days after the deadline, for each increment of progress defined in this Paragraph, whether the required increment of progress has been met.

(e) If the Director requires a test in accordance with 15A NCAC 02D .2600 to demonstrate that compliance has been achieved, the owner or operator of sources subject to this Rule shall conduct a test and submit a final test report within six months after the stated date of final compliance.

(f) Sources already in compliance.

(1) Maintenance area contingency plan. Paragraph (c) of this Rule shall not apply to any source subject to this Rule that is in compliance with applicable rules of this Section when the Director notices the implementation of rules in the North Carolina Register that resolves a violation of the ambient air quality standard for ozone and that have determined and certified compliance by the Director within six months after the Director notices the implementation of rules in the North Carolina Register that resolves a violation of the ambient air quality standard for ozone.

(2) Moderate nonattainment areas. Paragraph (d) of this Rule does not apply to sources subject to this Rule if they are in compliance with applicable rules of this Section on March 1, 2007.

(g) New sources.

(1) Maintenance area contingency plan. The owner or operator of any source subject to this Rule not in existence or under construction before the date that the Director notices in the North Carolina Register pursuant to 15A NCAC 02D .0902(h) the implementation of rules that resolves a violation of the ambient air quality standard for ozone shall comply with all applicable rules in this Section upon start-up of the source.

(2) Moderate nonattainment areas. The owner or operator of any new source subject to this Rule not in existence or under construction before March 1, 2007 in an area identified in 15A NCAC 02D .0902(f) shall comply with all applicable rules in this Section upon start-up of the source.

History Note *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. May 1, 2013; September 1, 2010; January 1, 2009; July 1, 2007; March 1, 2007; July 1, 2000; April 1, 1997; July 1, 1995; July 1, 1994; July 1, 1988; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0910 ALTERNATIVE COMPLIANCE SCHEDULES
15A NCAC 02D .0911 EXCEPTION FROM COMPLIANCE SCHEDULES

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. May 1, 1995; July 1, 1994; January 1, 1985; July 1, 1980;
Repealed Eff. April 1, 1997.

15A NCAC 02D .0912 GENERAL PROVISIONS ON TEST METHODS AND PROCEDURES

(a) The owner or operator of any volatile organic compound source required to comply with rules in this Section shall demonstrate compliance by the methods described in 15A NCAC 02D .2600, if the test method is not stated in the Rule governing that source. The owner or operator of a volatile organic compound source shall demonstrate compliance when the Director requests such demonstration.

(b) If the volatile organic compound emissions test shows noncompliance, the owner or operator of the volatile organic source shall submit, along with the final test report, the proposed corrective action.

(c) Compliance shall be determined on a line-by-line basis using the more stringent of the following two:

(1) Compliance shall be determined on a daily basis for each coating line using a weighted average by dividing the sum of the mass in pounds of volatile organic compounds in coatings consumed on that coating line, as received, and the mass in pounds of volatile organic compound solvents added to the coatings on that coating line by the volume in gallons of coating solids consumed during that day on that coating line; or

(2) Compliance shall be determined as follows:

(A) When low solvent or high solids coatings are used to reduce emissions of volatile organic compounds, compliance shall be determined instantaneously.

(B) When add on control devices, such as solvent recovery systems or incinerators, are used to reduce emissions of volatile organic compounds, compliance shall be determined by averaging emissions over a one-hour period.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. June 1, 2008; April 1, 2003; July 1, 1993; July 1, 1991; March 1, 1991; December 1, 1989; January 1, 1985; July 1, 1980;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0913 DETERMINATION OF VOLATILE CONTENT OF SURFACE COATINGS
15A NCAC 02D .0914 DETERMINATION OF VOC EMISSION CONTROL SYSTEM EFFICIENCY
15A NCAC 02D .0915 DETERMINATION OF SOLVENT METAL CLEANING VOC EMISSIONS
15A NCAC 02D .0916 DETERMINATION: VOC EMISSIONS FROM BULK GASOLINE TERMINALS

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5); 150B-14(c);*
Eff. July 1, 1979;
Amended Eff. July 1, 1998; March 1, 1991; December 1, 1989; July 1, 1988; April 1, 1986; January 1, 1985;
Repealed Eff. June 1, 2008.

15A NCAC 02D .0917 AUTOMOBILE AND LIGHT DUTY TRUCK MANUFACTURING

History Note: *Authority G.S. 143-215.3(a)(1); 143 215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. July 1, 1996; July 1, 1991; December 1, 1989; April 1, 1986; January 1, 1985;
Repealed Eff. September 1, 2010.

15A NCAC 02D .0918 CAN COATING

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "End sealing compound" means a synthetic rubber compound that is coated onto can ends and functions as a gasket when the end is assembled on the can.

(2) "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.

(3) "Interior base coating" means a coating applied by roller coater or spray to the interior of a can to provide a protective lining between the can metal and product.

(4) "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.

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

(6) "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.

(7) "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.

(b) This Rule applies to volatile organic compound emissions from coating applicators and ovens of sheet, can, or end coating lines involved in sheet exterior and interior basecoat and overvarnish; two-piece can interior body spray; two-piece spray or roll coat can exterior; and three-piece can side-seam spray and end sealing compound operations.

(c) Unless the exception in Paragraph (d) of this Rule applies, emissions of volatile organic compounds from any can coating line subject to this Rule shall not exceed:

(1) 4.5 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from sheet exterior and interior basecoat and overvarnish or two-piece can exterior basecoat and overvarnish operations;

(2) 9.8 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from two and three-piece can interior body spray and two-piece spray or roll coat can exterior end operations;

(3) 21.8 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from a three-piece applicator from a three-piece can side-seam spray operations; or

(4) 7.4 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from end sealing compound operations.

(d) Any source that has controlled emissions pursuant to 15A NCAC 02D .0518(e) prior to July 1, 2000 and that has installed air pollution control equipment in accordance with an air quality permit in order to comply with this Rule before December 1, 1989 may comply with the limits contained in this Paragraph instead of those contained in Paragraph (c) of this Rule. Emissions of volatile organic compounds from any can coating line subject to this Rule shall not exceed:

(1) 2.8 pounds of volatile organic compounds per gallon of coating, excluding water and exempt compounds, delivered to the coating applicator from sheet exterior and interior basecoat and overvarnish or two-piece can exterior basecoat and overvarnish operations;

(2) 4.2 pounds of volatile organic compounds per gallon of coating, excluding water and exempt compounds, delivered to the coating applicator from two and three-piece can interior body spray and two-piece can spray or roll coat exterior end operations;

(3) 5.5 pounds of volatile organic compounds per gallon of coating, excluding water and exempt compounds, delivered to the coating applicator from a three-piece applicator from a three-piece can side-seam spray operations; or

(4) 3.7 pounds of volatile organic compounds per gallon of coating, excluding water and exempt compounds, delivered to the coating applicator from end sealing compound operations.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. July 1, 1996; July 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0919 COIL COATING

(a) For the purpose of this Rule, the following definitions shall apply:

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

(2) "Quench area" means a chamber where the hot metal exiting the oven is cooled by either a spray of water or a blast of air followed by water cooling.

(b) This Rule applies to volatile organic compound emissions from the coating applicators, ovens, and quench areas of coil coating lines involved in prime and top coat or single coat operations.

(c) Unless the exception in Paragraph (d) of this Rule applies, emissions of volatile organic compounds from any coil coating line subject to this Rule shall not exceed 4.0 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from prime and topcoat or single coat operations.

(d) Any source that has controlled emissions of volatile organic compounds pursuant to .0518(e) prior to July 1, 2000 and that has installed air pollution control equipment in accordance with an air quality permit in order to comply with this Rule before December 1, 1989 may comply with the limits contained in this Paragraph instead of those contained in Paragraph (c) of this Rule. Emissions of volatile organic compounds from any coil coating line subject to this Rule shall not exceed 2.6 pounds of volatile organic compounds per gallon of coating, excluding water and exempt compounds, delivered to the coating applicator from prime and topcoat or single coat operations.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. July 1, 1996; July 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0920 PAPER COATINGS
15A NCAC 02D .0921 FABRIC AND VINYL COATING

History Note: *Authority G.S. 143 215.3(a)(1); 143 215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. July 1, 1996; July 1, 1991; December 1, 1989; January 1, 1985;
Repealed Eff. September 1, 2010.

15A NCAC 02D .0922 METAL FURNITURE COATINGS

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Application area" means the area where the coating is applied by spraying, dipping, or flowcoating techniques.

(2) "Coating unit" means one or more coating areas and any associated drying area or oven wherein a coating is applied, dried, or cured.

(3) "Metal furniture coatings" means paints, sealants, caulks, inks, adhesives, and maskants.

(b) This Rule applies to each metal furniture surface coating unit source whose emissions of volatile organic compounds meet the threshold established in 15A NCAC 02D .0902(b).

(c) Unless the exception in Paragraph (f) of this Rule applies, emissions of all volatile organic compounds from metal furniture coating unit subject to this Rule shall not exceed:

(1) 2.3 pounds of volatile organic compounds per gallon of coating excluding water and exempt compounds or 3.3 pounds of volatile organic compounds per gallon of solids delivered from general, one component or general, multi-component types of coating operations; and

(2) 3.0 pounds of volatile organic compounds per gallon of coating excluding water and exempt compounds or 5.1 pounds of volatile organic compounds per gallon of solids delivered from any other types of coating operations.

(d) EPA Method 24 of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of coating materials used at metal furniture surface coating units unless the facility maintains records to document the volatile organic compounds content of coating materials from the manufacturer.

(e) Emissions limits established in Subparagraph (c)(2) of this Rule do not apply to stencil coatings, safety-indicating coatings, solid film lubricants, electric-insulating and thermal-conducting coatings, touch-up and repair coatings, coating application utilizing hand-held aerosol cans, or cleaning operations.

(f) Any coating unit that has chosen to use add-on control for coating operations rather than the emission limits established in Paragraph (c) of this Rule shall install control equipment with an overall control efficiency of 90 percent or use a combination of coating and add-on control equipment on a coating unit to meet limits established in Paragraph (c) of this Rule.

(g) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. September 1, 2010; July 1, 1996; July 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0923 SURFACE COATING OF LARGE APPLIANCE PARTS

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Application area" means the area where the coating is applied by spraying, dipping, or flowcoating techniques.

(2) "Coating" means paints, sealants, caulks, inks, adhesives, and maskants.

(3) "Coating unit" means a unit that consists of a series of one or more coating applicators and any associated drying area or oven where a coating is dried or cured.

(4) "Large appliance part" means any organic 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.

(5) "Large appliance product" means any organic surface-coated metal range, oven, microwave oven, refrigerator, freezer, washer, dryer, dishwasher, water heater, or trash compactor manufactured for household, commercial, or recreational use.

(b) This Rule applies to each large appliance coating unit source whose volatile organic compounds emissions meet the threshold established in 15A NCAC 02D .0902.

(c) Emissions of all volatile organic compounds from any large appliance coating unit subject to this Rule shall not exceed:

(1) 2.3 pounds of volatile organic compounds per gallon of coating, excluding water and exempt compounds or 3.3 pounds of volatile organic compounds per gallon of solids delivered from general, one component coating or general, multi-component types of coating operations; and

(2) 2.8 pounds of volatile organic compounds per gallon of coating, excluding water and exempt compounds or 4.5 pounds of volatile organic compounds per gallon of solids delivered from any other types of coating operations.

(d) EPA Method 24 of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of coating materials used at surface coating of large appliances parts facilities unless the facility maintains records to document the volatile organic compounds content of coating materials from the manufacturer.

(e) Emissions limits established in Subparagraph (c)(2) of this Rule do not apply to stencil coatings, safety-indicating coatings, solid film lubricants, electric-insulating and thermal-conducting coatings, touch-up and repair coatings, coating applications utilizing hand- held aerosol cans, or any cleaning material.

(f) Any coating unit that has chosen to use add-on controls for coating operations rather than the emission limits established in Paragraph (c) of this Rule shall install control equipment with an overall control efficiency of 90 percent or use a combination of coating and add-on control equipment on a coating unit to meet limits established in Paragraph (c) of this Rule.

(g) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. September 1, 2010; July 1, 1996; July 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0924 MAGNET WIRE COATING

(a) For the purpose of this Rule, "magnet 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.

(b) This Rule applies to volatile organic compound emissions from the oven(s) of magnet wire coating operations.

(c) With the exception stated in Paragraph (d) of this Rule, emissions of volatile organic compounds from any magnet wire coating oven subject to this Rule shall not exceed 2.2 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from magnet wire coating operations.

(d) Any source that has controlled emissions of volatile organic compounds pursuant to 15A NCAC 02D .0518(e) prior to July 1, 2000 and installed air pollution control equipment in accordance with an air quality permit in order to comply with this Rule before December 1, 1989 may comply with the limits contained in this Paragraph instead of those contained in Paragraph (c) of this Rule. Emissions of volatile organic compounds from any magnet wire coating oven subject to this Rule shall not exceed 1.7 pounds of volatile organic compounds per gallon of coating, excluding water and exempt compounds, delivered to the coating applicator from magnet wire coating operations.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. July 1, 1996; July 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0925 PETROLEUM LIQUID STORAGE IN FIXED ROOF TANKS

(a) For the purpose of this Rule, the following definitions apply:

(1) "Condensate" means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure and remains liquid at standard conditions.

(2) "Crude oil" means a naturally occurring mixture that consists of hydrocarbons or sulfur, nitrogen or oxygen derivatives of hydrocarbons or mixtures thereof that is a liquid at standard conditions.

(3) "Custody transfer" means the transfer of produced crude oil or condensate, after processing or treating in the producing operations, from storage tanks or automatic transfer facilities to pipeline or any other forms of transportation.

(4) "External floating roof" means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck that rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(5) "Internal floating roof" means a cover or roof in a fixed roof tank that rests upon or is floated upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(6) "Petroleum liquids" means crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.

(7) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of crude oils, or through redistillation, cracking, extraction, or reforming of unfinished petroleum derivatives.

(b) This Rule applies to all fixed roof storage vessels with capacities greater than 39,000 gallons containing volatile petroleum liquids whose true vapor pressure is greater than 1.52 pounds per square inch.

(c) This Rule does not apply to volatile petroleum liquid storage vessels:

(1) equipped with external floating roofs; or

(2) having capacities less than 416,000 gallons used to store produced crude oil and condensate prior to lease custody transfer.

(d) With the exceptions stated in Paragraph (c) of this Rule, the owner or operator of any fixed roof storage vessel subject to this Rule shall not use the storage vessel unless:

(1) The storage vessel has been retrofitted with an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall;

(2) The storage vessel is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials;

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

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

(B) automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports; and

(C) rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting;

(4) Planned routine visual inspections are conducted through roof hatches once per month;

(5) A complete inspection of cover and seal is conducted whenever the tank is emptied for maintenance, shell inspection, cleaning, or for other nonoperational reasons or whenever excessive vapor leakage is observed; and

(6) Records are maintained in accordance with 15A NCAC 02D .0903 and shall include:

(A) reports of the results of inspections conducted pursuant to Subparagraphs (d)(4) and (d)(5) of this Rule;

(B) a record of the average monthly storage temperature, and true vapor pressures of petroleum liquids stored; and

(C) records of the throughput quantities and types of petroleum liquids for each storage vessel.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. March 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0926 BULK GASOLINE PLANTS

(a) For the purpose of this Rule, the following definitions apply:

(1) "Average daily throughput" means annual throughput of gasoline divided by 312 days per year.

(2) "Bottom filling" means the filling of a cargo tank or stationary storage tank through an opening flush with the tank bottom.

(3) "Bulk gasoline plant" means a gasoline storage and distribution facility with an average daily throughput of less than 20,000 gallons of gasoline and that typically receives gasoline from bulk terminals by cargo tank transport, stores it in tanks, and subsequently dispenses it via account cargo tanks to farms, businesses, and service stations.

(4) "Bulk gasoline terminal" means a gasoline storage facility that typically receives gasoline from refineries primarily by pipeline, ship, or barge; delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by cargo tank; and has an average daily throughput of greater than or equal to 20,000 gallons of gasoline.

(5) "Cargo tank" means the storage vessels of freight trucks or trailers used to transport gasoline from sources of supply to stationary storage tanks of bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities, and gasoline service stations.

(6) "Gasoline" means any petroleum distillate having a Reid Vapor Pressure (RVP) of 4.0 psi or greater.

(7) "Incoming vapor balance system" means a combination of pipes or hoses that create a closed system between the vapor spaces of an unloading cargo tank and a receiving stationary storage tank such that vapors displaced from the receiving stationary storage tank are transferred to the cargo tank being unloaded.

(8) "Outgoing vapor balance system" means a combination of pipes or hoses that create a closed system between the vapor spaces of an unloading stationary storage tank and a receiving cargo tank such that vapors displaced from the receiving cargo tank are transferred to the stationary storage tank being unloaded.

(9) "Splash filling" means the filling of a cargo tank or stationary storage tank through a pipe or hose whose discharge opening is above the surface level of the liquid in the tank being filled.

(10) "Submerged filling" means the filling of a cargo tank or stationary tank through a pipe or hose whose discharge opening is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid, or whose discharge opening is entirely submerged when the liquid level is six inches above the bottom of the tank.

(b) This Rule applies to the unloading, loading, and storage facilities of all bulk gasoline plants, and of all cargo tanks delivering or receiving gasoline at bulk gasoline plants except stationary storage tanks with capacities less than 528 gallons.

(c) The owner or operator of a bulk gasoline plant shall not transfer gasoline to any stationary storage tanks unless the unloading cargo tank and the receiving stationary storage tank are equipped with an incoming vapor balance system as described in Paragraph (i) of this Rule and the receiving stationary storage tank is equipped with a fill line whose discharge opening is flush with the bottom of the tank.

(d) The owner or operator of a bulk gasoline plant with an average daily gasoline throughput of 4,000 gallons or more shall not load cargo tank at such plant unless the unloading stationary storage tank and the receiving cargo tank are equipped with an outgoing vapor balance system as described in Paragraph (i) of this Rule and the receiving cargo tank is equipped for bottom filling.

(e) The owner or operator of a bulk gasoline plant with an average daily throughput of more than 2,500 gallons but less than 4,000 gallons located in an area with a housing density exceeding the limits in this Paragraph shall not load any cargo tank at such bulk gasoline plant unless the unloading stationary storage tank and receiving cargo tank are equipped with an outgoing vapor balance system as described in Paragraph (i) of this Rule and the receiving cargo tank is equipped for bottom filling. In the counties of Alamance, Buncombe, Cabarrus, Catawba, Cumberland, Davidson, Durham, Forsyth, Gaston, Guilford, Mecklenburg, New Hanover, Orange, Rowan, and Wake, the specified limit on housing density is 50 residences in a square one mile on a side with the square centered on the loading rack at the bulk gasoline plant and with one side oriented in a true North-South direction. In all other counties the specified limit on housing density is 100 residences per square mile. The housing density shall be determined by counting the number of residences using aerial photographs or other methods approved by the Director to provide equivalent accuracy.

(f) The owner or operator of a bulk gasoline plant not subject to the outgoing vapor balance system requirements of Paragraph (d) or (e) of this Rule shall not load cargo tanks at such plants unless:

(1) equipment is available at the bulk gasoline plant to provide for submerged filling of each cargo tank; or

(2) each receiving cargo tank is equipped for bottom filling.

(g) For gasoline bulk plants located in a nonattainment area for ozone, the owner or operator shall continue to comply with Paragraph (d) or (e) of this Rule even if the average daily throughput falls below the applicable threshold if ever the facility throughput triggered compliance.

(h) The owner or operator of a bulk gasoline plant shall ensure a cargo tank that is required to be equipped with a vapor balance system pursuant to Paragraphs (c), (d), or (e) of this Rule shall not transfer gasoline between the cargo tank and the stationary storage tank unless:

(1) the vapor balance system is in good working order and is connected and operating;

(2) cargo tank hatches are closed at all times during loading and unloading operations; and

(3) the cargo tank's pressure/vacuum relief valves, hatch covers, and the cargo tank's and storage tank's associated vapor and liquid lines are vapor tight during loading or unloading.

(i) Vapor balance systems required under Paragraphs (c), (d), and (e) of this Rule shall consist of the following major components:

(1) a vapor space connection on the stationary storage tank equipped with fittings that are vapor tight and will be automatically and immediately closed upon disconnection to prevent release of volatile organic material;

(2) a connecting pipe or hose equipped with fittings that are vapor tight and will be automatically and immediately closed upon disconnection to prevent release of volatile organic material; and

(3) a vapor space connection on the cargo tank equipped with fittings that are vapor tight and will be automatically and immediately closed upon disconnection to prevent release of volatile organic material.

(j) The owner or operator of a bulk gasoline plant shall paint all tanks used for gasoline storage white or silver.

(k) The pressure relief valves on cargo tanks loading or unloading at bulk gasoline plants shall be set to release at the highest possible pressure in accordance with State or local fire codes or the National Fire Prevention Association Guidelines. The pressure relief valves on stationary storage tanks shall be set at 0.5 psi for storage tanks placed in service on or after November 1, 1992, and 0.25 psi for storage tanks existing before November 1, 1992.

(l) No owner or operator of a bulk gasoline plant may permit gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation.

(m) The owner or operator of a bulk gasoline plant shall observe loading and unloading operations and shall discontinue the transfer of gasoline:

(1) if any liquid leaks are observed; or

(2) if any vapor leaks are observed where a vapor balance system is required under Paragraphs (c), (d), or (e) of this Rule.

(n) The owner or operator of a bulk gasoline plant shall not load, or allow to be loaded, gasoline into any cargo tank unless the cargo tank has been certified leak tight in accordance with 15A NCAC 02D .0932, .0960, and .2615.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. July 1, 1996; May 1, 1993; March 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0927 BULK GASOLINE TERMINALS

(a) For the purpose of this Rule, the following definitions apply:

(1) "Bulk gasoline terminal" means:

(A) a pipeline breakout station of an interstate oil pipeline facility; or

(B) a gasoline storage facility that typically receives gasoline from refineries primarily by pipeline, ship, or barge; delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by cargo tank; and has an average daily throughput of more than 20,000 gallons of gasoline.

(2) "Cargo tank" means the storage vessels of freight trucks or trailers used to transport gasoline from sources of supply to stationary storage tanks of bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities, and gasoline service stations.

(3) "Contact deck" means a deck in an internal floating roof tank that rises and falls with the liquid level and floats in direct contact with the liquid surface.

(4) "Degassing" means the process by which a tank's interior vapor space is decreased to below the lower explosive limit for the purpose of cleaning, inspection, or repair.

(5) "Gasoline" means a petroleum distillate having a Reid Vapor Pressure (RVP) of 4.0 psi or greater.

(6) "Leak" means a crack or hole letting petroleum product vapor or liquid escape that is identifiable through sight, sound, smell, an explosimeter, or the use of a meter that measures volatile organic compounds. When an explosimeter or meter is used to detect a leak, a leak is a measurement that is equal to or greater than 100 percent of the lower explosive limit, as detected by a combustible gas detector using the test procedure described in Appendix B of EPA-450/2-78-051. This test procedure is incorporated by reference, including any subsequent amendments and editions. A copy of this test procedure may be obtained free of charge at https://nepis.epa.gov/Exe/ZyPDF.cgi/2000M9RD.PDF?Dockey=2000M9RD.PDF.

(7) "Liquid balancing" means a process used to degas floating roof gasoline storage tanks with a liquid whose vapor pressure is below 1.52 psi. This is done by removing as much gasoline as possible without landing the roof on its internal supports, pumping in the replacement fluid, allowing mixing, remove as much mixture as possible without landing the roof, and repeating these steps until the vapor pressure of the mixture is below 1.52 psi.

(8) "Liquid displacement" means a process by which gasoline vapors, remaining in an empty tank, are displaced by a liquid with a vapor pressure below 1.52 psi.

(9) "Pipeline breakout station" means a facility along a pipeline containing storage tanks used to:

(A) relieve surges in a hazardous liquid pipeline system; or

(B) receive and store hazardous liquids transported by pipeline for reinjection and continued transport by pipeline.

(b) This Rule applies to bulk gasoline terminals and the appurtenant equipment necessary to load the cargo tank compartments.

(c) Gasoline shall not be loaded into any cargo tank from any bulk gasoline terminal unless:

(1) the bulk gasoline terminal is equipped with a vapor control system that prevents the emissions of volatile organic compounds from exceeding 35 milligrams per liter. The owner or operator shall obtain from the manufacturer and maintain in the cargo tank's records a pre-installation certification stating the vapor control efficiency of the system in use;

(2) displaced vapors and gases are vented only to the vapor control system or to a flare;

(3) a means is provided to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected; and

(4) all loading and vapor lines are equipped with fittings that make vapor-tight connections and that are automatically and immediately closed upon disconnection.

(d) Sources regulated by this Rule shall not:

(1) allow gasoline to be discarded in sewers or stored in open containers or handled in any manner that would result in evaporation; or

(2) allow the pressure in the vapor collection system to exceed the cargo tank pressure relief settings.

(e) The owner or operator of a bulk gasoline terminal shall paint all tanks used for gasoline storage white or silver.

(f) The owner or operator of a bulk gasoline terminal shall install on each external floating roof tank with an inside diameter of 100 feet or less used to store gasoline a self-supporting roof, such as a geodesic dome.

(g) The following equipment shall be required on all tanks storing gasoline at a bulk gasoline terminal:

(1) rim-mounted secondary seals on all external and internal floating roof tanks;

(2) gaskets on deck fittings; and
(3) floats in the slotted guide poles with a gasket around the cover of the poles.

(h) Decks shall be required on all above ground tanks with a capacity greater than 19,800 gallons storing gasoline at a bulk gasoline terminal. All decks installed after June 30, 1998 shall comply with the following requirements:
(1) deck seams shall be welded, bolted, or riveted; and
(2) seams on bolted contact decks and on riveted contact decks shall be gasketed.

(i) If, upon facility or operational modification of a bulk gasoline terminal that existed before December 1, 1992, an increase in benzene emissions results such that:
(1) emissions of volatile organic compounds increase by more than 25 tons cumulative at any time during the five years following modifications; and
(2) annual emissions of benzene from the cluster where the bulk gasoline terminal is located (including the pipeline and marketing terminals served by the pipeline) exceed benzene emissions from that cluster based upon calendar year 1991 gasoline throughput and application of the requirements of this Subchapter,

then, the annual increase in benzene emissions due to the modification shall be offset within the cluster by reduction in benzene emissions beyond that otherwise achieved from compliance with this Rule, in the ratio of at least 1.3 to 1.

(j) The owner or operators of a bulk gasoline terminal that received an air permit before December 1, 1992 to emit toxic air pollutants under 15A NCAC 02Q .0700 to comply with 15A NCAC 02D .1100 shall continue to follow all terms and conditions of the permit issued under 15A NCAC 02Q .0700 and to bring the terminal into compliance with 15A NCAC 02D .1100 according to the terms and conditions of the permit, in which case the bulk gasoline terminal shall continue to need a permit to emit toxic air pollutants and shall be exempted from Paragraphs (e) through (i) of this Rule.

(k) The owner or operator of a bulk gasoline terminal shall not load, or allow to be loaded, gasoline into any cargo tank unless the cargo tank has been certified leak tight according to 15A NCAC 02D .0932, .0960, and .2615.

(l) The owner or operator of a bulk gasoline terminal shall have on file at the terminal a copy of the certification test conducted according to 15A NCAC 02D .0932 for each gasoline cargo tank loaded at the terminal.

(m) Emissions of gasoline from degassing of external or internal floating roof tanks at a bulk gasoline terminal shall be collected and controlled by at least 90 percent by weight. Liquid balancing shall not be used to degas gasoline storage tanks at bulk gasoline terminals. Bulk gasoline storage tanks containing not more than 138 gallons of liquid gasoline or the equivalent of gasoline vapor and gasoline liquid are exempted from the degassing requirements if gasoline vapors are vented for at least 24 hours. Documentation of degassing external or internal floating roof tanks shall be made according to 15A NCAC 02D .0903.

(n) According to 15A NCAC 02D .0903, the owner or operator of a bulk gasoline terminal shall visually inspect the following for leaks each day that the terminal is both manned and open for business:
(1) the vapor collection system;
(2) the vapor control system; and
(3) each lane of the loading rack while a gasoline cargo tank is being loaded.

If no leaks are found, the owner or operator shall record that no leaks were found. If a leak is found, the owner or operator shall record the information specified in Paragraph (p) of this Rule. The owner or operator shall repair all leaks found according to Paragraph (q) of this Rule.

(o) The owner or operator of a bulk gasoline terminal shall inspect weekly for leaks:
(1) the vapor collection system;
(2) the vapor control system; and
(3) each lane of the loading rack while a gasoline cargo tank is being loaded.

The weekly inspection shall be done using sight, sound, or smell; a meter used to measure volatile organic compounds; or an explosimeter. An inspection using either a meter used to measure volatile organic compounds or an explosimeter shall be conducted every month. If no leaks are found, the owner or operator shall record the date that the inspection was done and that no leaks were found. If a leak is found, the owner or operator shall record the information specified in Paragraph (p) of this Rule. The owner or operator shall repair all leaks found according to Paragraph (q) of this Rule.

(p) For each leak found under Paragraph (n) or (o) of this Rule, the owner or operator of a bulk gasoline terminal shall record:
(1) the date of the inspection;
(2) the findings detailing the location, nature, and severity of each leak;
(3) the corrective action taken;
(4) the date when corrective action was completed; and

(5) any other information that the terminal deems necessary to demonstrate compliance.

(q) The owner or operator of a bulk gasoline terminal shall repair all leaks as follows:

(1) The vapor collection hose that connects to the cargo tank shall be repaired or replaced before another cargo tank is loaded at that rack after a leak has been detected originating with the terminal's equipment rather than from the gasoline cargo tank.

(2) All other leaks shall be repaired as expeditiously as possible but no later than 15 days from their detection. If more than 15 days are required to make the repair, the reasons that the repair cannot be made shall be documented, and the leaking equipment shall not be used after the fifteenth day from when the leak detection was found until the repair is made.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. January 1, 2007; April 1, 2003; August 1, 2002; July 1, 1998; July 1, 1996; July 1, 1994; December 1, 1992; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0928 GASOLINE SERVICE STATIONS STAGE I

(a) Definitions. For the purpose of this Rule, the following definitions apply:

(1) "Coaxial vapor recovery system" means the delivery of the gasoline and recovery of vapors occurring through a single coaxial fill tube, which is a tube within a tube. Gasoline is delivered through the inner tube, and vapor is recovered through the annular space between the walls of the inner tube and outer tube.

(2) "Delivery vessel" means cargo tanks used for the transport of gasoline from sources or supply to stationary storage tanks of gasoline dispensing facilities.

(3) "Dual point vapor recovery system" means the delivery of the product to the stationary storage tank and the recovery of vapors from the stationary storage tank occurring through two separate openings in the storage tank and two separate hoses between the cargo tank and the stationary storage tank.

(4) "Gasoline" means a petroleum distillate having a Reid vapor pressure of four psi or greater.

(5) "Gasoline dispensing facility" means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.

(6) "Gasoline service station" means any gasoline dispensing facility where gasoline is sold to the motoring public from stationary storage tanks.

(7) "Line" means any pipe suitable for transferring gasoline.

(8) "Operator" means any person who leases, operates, controls, or supervises a facility at which gasoline is dispensed.

(9) "Owner" means any person who has legal or equitable title to the gasoline storage tank at a facility.

(10) "Poppeted vapor recovery adaptor" means a vapor recovery adaptor that automatically and immediately closes itself when the vapor return line is disconnected and maintains a tight seal when the vapor return line is not connected.

(11) "Stationary storage tank" means a gasoline storage container that is a permanent fixture.

(12) "Submerged fill pipe" means any fill pipe with a discharge opening that is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid, or that is entirely submerged when the level of the liquid is:

(A) six inches above the bottom of the tank if the tank does not have a vapor recovery adaptor; or

(B) 12 inches above the bottom of the tank if the tank has a vapor recovery adaptor. If the opening of the submerged fill pipe is cut at a slant, the distance is measured from the top of the slanted cut to the bottom of the tank.

(13) "Throughput" means the amount of gasoline dispensed at a facility during a calendar month after November 15, 1990.

(b) Applicability. This Rule applies to all gasoline dispensing facilities and gasoline service stations, and to delivery vessels delivering gasoline to a gasoline dispensing facility or gasoline service station.

(c) Exemptions. This Rule does not apply to:

(1) transfers made to storage tanks at gasoline dispensing facilities or gasoline service stations equipped with floating roofs or their equivalent;

(2) stationary tanks with a capacity of not more than 2,000 gallons that are in place before July 1, 1979, if the tanks are equipped with a permanent or portable submerged fill pipe;

(3) stationary storage tanks with a capacity of not more than 550 gallons that are installed after June 30, 1979, if tanks are equipped with a permanent or portable submerged fill pipe;

(4) stationary storage tanks with a capacity of not more than 2,000 gallons located on a farm or a residence and used to store gasoline for farm equipment or residential use if gasoline is delivered to the tank through a permanent or portable submerged fill pipe. This exemption does not apply in ozone non-attainment areas;

(5) stationary storage tanks at a gasoline dispensing facility or gasoline service station where the combined annual throughput of gasoline at the facility or station does not exceed 50,000 gallons, if the tanks are permanently equipped with submerged fill pipes; or

(6) any tanks used exclusively to test the fuel dispensing meters.

(d) With exceptions stated in Paragraph (c) of this Rule, gasoline shall not be transferred from any delivery vessel into any stationary storage tank unless:

(1) the tank is equipped with a submerged fill pipe, and the vapors displaced from the storage tank during filling are controlled by a vapor control system as described in Paragraph (e) of this Rule;
(2) the vapor control system is in good working order and is connected and operating with a vapor tight connection;
(3) the vapor control system is properly maintained and all damaged or malfunctioning components or elements of design are repaired, replaced, or modified;
(4) gauges, meters, or other specified testing devices are maintained in proper working order;
(5) the delivery vessel and vapor collection system complies with 15A NCAC 02D .0932; and
(6) the following records are kept in accordance with 15A NCAC 02D .0903:
(A) the scheduled date for maintenance or the date that a malfunction was detected;
(B) the date the maintenance was performed or the malfunction corrected; and
(C) the component or element of design of the control system repaired, replaced, or modified.

(e) The vapor control system required by Paragraph (d) of this Rule shall include one or more of the following:
(1) a vapor-tight line from the storage tank to the delivery vessel, and:
(A) for a coaxial vapor recovery system, either a poppeted or unpoppeted vapor recovery adaptor;
(B) for a dual point vapor recovery system, a poppeted vapor recovery adaptor; or
(2) a refrigeration-condensation system or equivalent designed to recover at least 90 percent by weight of the volatile organic compounds in the displaced vapor.

(f) If an unpoppeted vapor recovery adaptor is used pursuant to Part (e)(1)(A) of this Rule, the tank liquid fill connection shall remain covered either with a vapor-tight cap or a vapor return line, except when the vapor return line is being connected or disconnected.

(g) If an unpoppeted vapor recovery adaptor is used pursuant to Part (e)(1)(A) of this Rule, the unpoppeted vapor recovery adaptor shall be replaced with a poppeted vapor recovery adaptor when the tank is replaced or is removed and upgraded.

(h) Where vapor lines from the storage tanks are manifolded, poppeted vapor recovery adapters shall be used. No more than one tank is to be loaded at a time if the manifold vapor lines are size 2.5 inches and smaller. If the manifold vapor lines are 3.0 inches and larger, then two tanks at a time may be loaded.

(i) Vent lines on tanks with Stage I controls shall have pressure release valves or restrictors.

(j) The vapor-laden delivery vessel:
(1) shall be designed and maintained to be vapor-tight during loading and unloading operations and during transport with the exception of normal pressure/vacuum venting as required by the Department of Transportation; and
(2) if it is refilled in North Carolina, shall be refilled only at:
(A) bulk gasoline plants complying with 15A NCAC 02D .0926; or
(B) bulk gasoline terminals complying with 15A NCAC 02D .0927 or .0524.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. July 1, 1996; July 1, 1994; March 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0929 PETROLEUM REFINERY SOURCES

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. March 1, 1991; December 1, 1989; January 1, 1985;
Repealed Eff. July 1, 1996.

15A NCAC 02D .0930 SOLVENT METAL CLEANING

(a) For the purpose of this Rule, the following definitions apply:

(1) "Cold cleaning" means the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.

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

(3) "Freeboard height" means for vapor degreasers the distance from the top of the vapor zone to the top of the degreaser tank. For cold cleaners, freeboard height means the distance from liquid solvent level in the degreaser tank to the top of the tank.

(4) "Freeboard ratio" means the freeboard height divided by the width of the degreaser.

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

(6) "Solvent metal cleaning" means the process of cleaning soils from metal surfaces by cold cleaning, open top vapor degreasing, or conveyorized degreasing.

(b) This Rule applies to cold cleaning, open top vapor degreasing, and conveyorized degreasing operations.

(c) The provisions of this Rule shall apply with the following exceptions:

(1) Open top vapor degreasers with an open area smaller than 10.8 square feet shall be exempt from Subparagraph (e)(3) of this Rule; and

(2) Conveyorized degreasers with an air/vapor interface smaller than 21.6 square feet shall be exempt from Subparagraph (f)(2) of this Rule.

(d) The owner or operator of a cold cleaning facility shall:

(1) equip the cleaner with a cover and the cover shall be designed so that it can be easily operated with one hand, if:

(A) the solvent volatility is greater than 15 millimeters of mercury or 0.3 pounds per square inch measured at 100°F;

(B) the solvent is agitated; or

(C) the solvent is heated;

(2) equip the cleaner with a facility for draining cleaned parts. The drainage facility shall be constructed internally so that parts are enclosed under the cover while draining if the solvent volatility is greater than 32 millimeters of mercury or 0.6 pounds per square inch measured at 100°F. However, the drainage facility may be external for applications where an internal type cannot fit into the cleaning system;

(3) install one of the following control devices if the solvent volatility is greater than 33 millimeters of mercury or 0.6 pounds per square inch measured at 100°F, or if the solvent is heated above 120°F:

(A) freeboard that gives a freeboard ratio greater than or equal to 0.7;

(B) water cover if the solvent is insoluble in and heavier than water; or

(C) other systems of equivalent control, such as refrigerated chiller or carbon adsorption, approved by the Director;

(4) provide a permanent, conspicuous label, summarizing the operating requirements;

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

(6) close the cover whenever parts are not being handled in the cleaner;

(7) drain the cleaned parts for at least 15 seconds or until dripping ceases; and

(8) if used, supply a solvent spray that is a solid fluid stream (not a fine, atomized, or shower type spray) at a pressure that does not cause excessive splashing.

(e) With the exception stated in Paragraph (c) of this Rule the owner or operator of an open top vapor degreaser shall:

(1) equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;

(2) provide the following safety switches or devices:

(A) a condenser flow switch and thermostat or other device that prevents heat input if the condenser coolant is either not circulating or too warm;

(B) a spray safety switch or other device that shuts off the spray pump if the vapor level drops more than 10 inches; and

(C) a vapor level control thermostat or other device that prevents heat input when the vapor level rises too high;

(3) install one of the following control devices:
   (A) freeboard ratio greater than or equal to 0.75. If the degreaser opening is greater than 10.8 square feet, the cover must be powered;
   (B) refrigerated chiller;
   (C) enclosed design where the cover or door opens only when the dry part is actually entering or exiting the degreaser; or
   (D) carbon adsorption system with ventilation greater than or equal to 50 cubic feet per minute per square foot of air/vapor area, when cover is open, and exhausting less than 25 parts per million of solvent averaged over one complete adsorption cycle;

(4) keep the cover closed at all times except when processing workloads through the degreaser; and

(5) minimize solvent carryout by:
   (A) racking parts to allow complete drainage;
   (B) moving parts in and out of the degreaser at less than 11 feet per minute;
   (C) holding the parts in the vapor zone at least 30 seconds or until condensation ceases;
   (D) tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and
   (E) allowing parts to dry within the degreaser for at least 15 seconds or until visually dry;

(6) not degrease porous or absorbent materials, such as cloth, leather, wood, or rope;

(7) not occupy more than half of the degreaser's open top area with a workload;

(8) not load the degreaser to the point where the vapor level would drop more than 10 inches when the workload is removed from the vapor zone;

(9) always spray below the vapor level;

(10) repair solvent leaks immediately or shutdown the degreaser;

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

(12) not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator;

(13) not use ventilation fans near the degreaser opening, nor provide exhaust ventilation exceeding 65 cubic feet per minute per square foot of degreaser open area, unless necessary to meet OSHA requirements (OSHA is the U.S. Occupational Safety and Health Administration; in North Carolina the N.C. Labor Department has delegation of OSHA programs); and

(14) provide a permanent, conspicuous label, summarizing the operating procedures of Subparagraph (4) through (12) of this Paragraph.

(f) With the exception stated in Paragraph (c) of this Rule, the owner or operator of a conveyorized degreaser shall:

(1) not use workplace fans near the degreaser opening, nor provide exhaust ventilation exceeding 65 cubic feet per minute per square foot of degreaser opening, unless necessary to meet OSHA requirements;

(2) install one of the following control devices:
   (A) refrigerated chiller; or
   (B) carbon adsorption system with ventilation greater than or equal to 50 cubic feet per minute per square foot of air/vapor area, when downtime covers are open, and exhausting less than 25 parts per million of solvent by volume averaged over a complete adsorption cycle;

(3) equip the cleaner with equipment, such as a drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor;

(4) provide the following safety switches or devices:
   (A) a condenser flow switch and thermostat or other device that prevents heat input if the condenser coolant is either not circulating or too warm;
   (B) a spray safety switch or other device that shuts off the spray pump or the conveyor if the vapor level drops more than 10 inches; and
   (C) a vapor level control thermostat or other device that prevents heat input when the vapor level rises too high;

(5) minimize openings during operation so that entrances and exits will silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than four inches or less than 10 percent of the width of the opening;

(6) provide downtime covers for closing off the entrance and exit during shutdown hours;

(7) minimize carryout emissions by:

(A) racking parts for best drainage; and

(B) maintaining the vertical conveyor speed at less than 11 feet per minute;

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

(9) repair solvent leaks immediately, or shut down the degreaser;

(10) not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator; and

(11) place downtime covers over entrances and exits or conveyorized degreasers immediately after the conveyors and exhausts are shutdown and not remove them until just before start-up.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. March 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0931 CUTBACK ASPHALT

(a) For the purpose of this Rule, the following definitions apply:

(1) "Asphalt" means a dark-brown to black cementitious material, solid, semisolid, or liquid in consistency, in which the predominating constituents are bitumens that occur in nature as such or that are obtained as residue in refining petroleum.

(2) "Cutback asphalt" means asphalt cement that has been liquefied by blending with petroleum solvents or diluents. Upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function.

(3) "Penetrating prime coat" means an application of low-viscosity liquid asphalt to an absorbent surface. It is used to prepare an untreated base for an asphalt surface. The prime penetrates the base and plugs the voids, hardens the top, and helps bind it to the overlying asphalt course. It also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.

(b) This Rule applies to the manufacture and use of cutback asphalts for the purpose of paving or maintaining roads, highways, streets, parking lots, driveways, curbs, sidewalks, airfields, such as runways, taxiways, and parking aprons, recreational facilities, such as tennis courts, playgrounds, and trails, and other similar structures.

(c) Cutback asphalt shall not be manufactured, mixed, stored, used, or applied except where:

(1) long-life, of one month or more, stockpile storage is necessary;

(2) the use or application at ambient temperatures less than 50°F, as measured at the nearest National Weather Service Field Local Office or Federal Aviation Administration Surface Weather Observation Station, is necessary;

(3) the cutback asphalt is to be used solely as a penetrating prime coat; or

(4) the user can demonstrate to the Director that there are no volatile organic compound emissions under conditions of normal use.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1979;
Amended Eff. December 1, 1989; January 1, 1985; June 1, 1980;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0932 GASOLINE CARGO TANKS AND VAPOR COLLECTION SYSTEMS

(a) For the purposes of this Rule, the following definitions apply:

(1) "Bottom filling" means the filling of a cargo tank or stationary storage tank through an opening flush with the tank bottom.

(2) "Bulk gasoline plant" means a gasoline storage and distribution facility with an average daily throughput of less than 20,000 gallons of gasoline and that typically receives gasoline from bulk terminals by trailer transport, stores it in tanks, and subsequently dispenses it via account cargo tanks to local farms, businesses, and service stations.

(3) "Bulk gasoline terminal" means:

(A) a pipeline breakout station of an interstate oil pipeline facility; or

(B) a gasoline storage facility that typically receives gasoline from refineries primarily by pipeline, ship, or barge; delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by cargo tank; and has an average daily throughput of more than 20,000 gallons of gasoline.

(4) "Cargo tank" means the storage vessels of freight trucks or trailers used to transport gasoline from sources of supply to stationary storage tanks of bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities, and gasoline service stations.

(5) "Cargo tank testing facility" means any facility complying with registration in 49 CFR Part 107, Subpart F.

(6) "Cargo tank vapor collection equipment" means any piping, hoses, and devices on the cargo tank used to collect and route gasoline vapors in the tank to or from the bulk gasoline terminal, bulk gasoline plant, gasoline dispensing facility, or gasoline service station vapor control system or vapor balance system.

(7) "Gasoline" means any petroleum distillate having a Reid Vapor Pressure (RVP) of 4.0 psi or greater.

(8) "Gasoline dispensing facility" means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.

(9) "Gasoline service station" means any gasoline dispensing facility where gasoline is sold to the motoring public from stationary storage tanks.

(10) "Vapor balance system" means a combination of pipes or hoses that create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

(11) "Vapor collection system" means a vapor balance system or any other system used to collect and control emissions of volatile organic compounds.

(b) This Rule applies to gasoline cargo tanks that are equipped for vapor collection and to vapor control systems at bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities, and gasoline service stations equipped with vapor balance or vapor control systems.

(c) For cargo tanks, the following requirements shall apply:

(1) Gasoline cargo tanks and their vapor collection systems shall be tested annually by a cargo tank testing facility. The facility shall follow the test procedure as defined by 15A NCAC 02D .2615 to certify the gasoline cargo tank leak tight. The gasoline cargo tank shall not be used unless it is certified leak tight.

(2) Each gasoline cargo tank that has been certified leak tight according to Subparagraph (1) of this Paragraph shall display a sticker near the Department of Transportation certification plate required by 49 CFR 180.415.

(3) There shall be no liquid leaks from any gasoline cargo tank.

(4) Any cargo tank with a leak equal to or greater than 100 percent of the lower explosive limit, as detected by a combustible gas detector using the test procedure described in 15A NCAC 02D .2615 shall not be used beyond 15 days after the leak has been discovered, unless the leak has been repaired and the cargo tank has been certified to be leak tight according to Subparagraph (1) of this Paragraph.

(5) The owner or operator of a gasoline cargo tank with a vapor collection system shall maintain records of all leak testing and repairs. The records shall identify the gasoline cargo tank, the date of the test or repair, and, if applicable, the type of repair and the date of retest. The records of leak tests shall include:

(A) the name, address, and telephone number of cargo tank testing facility performing the leak test;
(B) the name and signature of the individual performing the leak test;
(C) the name and address of the owner of the tank;
(D) the identification number of the tank;
(E) the documentation of tests performed including the date and summary of results;
(F) the continued qualification statement and returned to service status; and
(G) a list or description of identified corrective repairs to the tank. If none are performed then the report shall state "no corrective repairs performed."

(6) A copy of the most recent leak testing report shall be kept with the cargo tank. The owner or operator of the cargo tank shall also file a copy of the most recent leak testing report with each bulk gasoline terminal that loads the cargo tank. The records shall be maintained for at least two years after the date of the testing or repair, and copies of such records shall be made available within a reasonable time to the Director upon written request.

(d) For bulk gasoline terminals and bulk gasoline plants equipped with vapor balance or vapor control systems, the following requirements shall apply:

(1) The vapor collection system and vapor control system shall be designed and operated to prevent gauge pressure in the cargo tank from exceeding 18 inches of water and to prevent a vacuum of greater than six inches of water.

(2) During loading and unloading operations there shall be:
(A) no vapor leakage from the vapor collection system such that a reading equal to or greater than 100 percent of the lower explosive limit at one inch around the perimeter of each potential leak source as detected by a combustible gas detector using the test procedure described in 15A NCAC 02D .2615; and
(B) no liquid leaks.

(3) If a leak is discovered that exceeds the limit in Subparagraph (2) of this Paragraph:
(A) For bulk gasoline plants, the vapor collection system or vapor control system shall not be used beyond 15 days after the leak has been discovered, unless the leak has been repaired and the system has been retested and found to comply with Subparagraph (2) of this Paragraph;
(B) For bulk gasoline terminals, the vapor collection system or vapor control system shall be repaired following the procedures in 15A NCAC 02D .0927.

(4) The owner or operator of a vapor collection system at a bulk gasoline plant or a bulk gasoline terminal shall test, according to 15A NCAC 02D .0912, the vapor collection system at least once per year. If after two complete annual checks no more than 10 leaks are found, the Director shall allow less frequent monitoring. If more than 20 leaks are found, the Director shall require the frequency of monitoring be increased.

(5) The owner or operator of vapor control systems at bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities, and gasoline service stations equipped with vapor balance or vapor control systems shall maintain records of all certification testing and repairs. The records shall identify each vapor collection system, or vapor control system; the date of the test or repair; and, if applicable, the type of repair and the date of retest.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1980;
Amended Eff. August 1, 2008; June 1, 2008; January 1, 2007; April 1, 2003; August 1, 2002; July 1, 1994; December 1, 1989; January 1, 1985;
Readopted Eff. October 1, 2020.

15A NCAC 02D .0933 PETROLEUM LIQUID STORAGE IN EXTERNAL FLOATING ROOF TANKS

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Condensate" means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure and remains liquid at standard conditions.

(2) "Crude oil" means a naturally occurring mixture consisting of hydrocarbons or sulfur, nitrogen or oxygen derivatives of hydrocarbons or mixtures thereof that is a liquid in the reservoir at standard conditions.

(3) "Custody transfer" means the transfer of produced crude oil or condensate, after processing or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(4) "External floating roof" means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck that rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(5) "Internal floating roof" means a cover or roof in a fixed roof tank that rests upon or is floated upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(6) "Liquid-mounted seal" means a primary seal mounted so the bottom of the seal covers the liquid surface between the tank shell and the floating roof.

(7) "Petroleum liquids" means crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.

(8) "Vapor-mounted seal" means a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank shell, the liquid surface, and the floating roof.

(b) This Rule applies to all external floating roof tanks with capacities greater than 950 barrels containing petroleum liquids whose true vapor pressure exceed 1.52 pounds per square inch absolute.

(c) This Rule does not apply to petroleum liquid storage vessels:

(1) that have external floating roofs that have capacities less than 10,000 barrels and that are used to store produced crude oil and condensate prior to custody transfer;

(2) that have external floating roofs and that store waxy, heavy-pour crudes;

(3) that have external floating roofs, and that contain a petroleum liquid with a true vapor pressure less than 4.0 pounds per square inch absolute; and:

(A) the tanks are of welded construction; and

(B) the primary seal is a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted filled type seal, or any other closure device of demonstrated equivalence; or

(4) that have fixed roofs with or without internal floating roofs.

(d) With the exceptions stated in Paragraph (c) of this Rule, an external floating roof tank subject to this Rule shall not be used unless:

(1) The tank has:

(A) a continuous secondary seal extending from the floating roof to the tank wall, known as a rim-mounted secondary seal;

(B) a metallic-type shoe primary seal and a secondary seal from the top of the shoe seal to the tank wall, known as a shoe-mounted secondary seal; or

(C) a closure or other control device demonstrated to have an efficiency equal to or greater than that required under Part (A) or (B) of this Subparagraph;

(2) The seal closure devices meet the following requirements:

(A) There shall be no visible holes, tears, or other openings in the seal or seal fabric;

(B) The seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

(C) For vapor mounted primary seals, any gaps exceeding 0.125 inch in width between the secondary seal and the tank wall shall not exceed 1.0 square inch per foot of tank diameter;

(3) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:

(A) provided with a projection below the liquid surface; and

(B) equipped with covers, seals, or lids that remain in a closed position at all times except when in actual use;

(4) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

(5) Rim vents are set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting;

(6) Any emergency roof drains are provided with slotted membrane fabric covers or equivalent covers that cover at least 90 percent of the area at the opening;

(7) Planned routine visual inspections to verify the conditions of the seal are conducted once per month;

(8) For tanks equipped with a vapor-mounted primary seal, the secondary seal gap measurements are made annually in accordance with Paragraph (e) of this Rule; and

(9) Records are maintained pursuant to 15A NCAC 02D .0903, including:

(A) reports of the results of inspections conducted under Subparagraphs (7) and (8) of this Paragraph;

(B) a record of the average monthly storage temperature and the true vapor pressures or Reid vapor pressures of the petroleum liquids stored; and

(C) records of the throughput quantities and types of petroleum liquids for each storage vessel.

(e) The secondary seal gap area shall be determined by measuring the length and width of the gaps around the entire circumference of the secondary seal. Only gaps equal to or greater than 0.125 inch shall be used in computing the gap area. The area of the gaps shall be accumulated to determine compliance with Part (d)(2)(C) of this Rule.

(f) The owner or operator of a petroleum liquid storage vessel with an external floating roof that is not equipped with a secondary seal or approved alternative and contains a petroleum liquid with a true vapor pressure greater than 1.0 pound per square inch shall maintain records of the average monthly storage temperature, the type of liquid, throughput quantities, and the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 1.0 pound per square inch.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1980;
Amended Eff. June 1, 2004; July 1, 1994; March 1, 1991; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0934 COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1980;
Amended Eff. July 1, 1996; July 1, 1991; December 1, 1989; January 1, 1985;
Repealed Eff. September 1, 2010.

15A NCAC 02D .0935 FACTORY SURFACE COATING OF FLAT WOOD PANELING

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Flat wood paneling coatings" means wood paneling product that are any interior, exterior, or tileboard (class I hardboard) panel to which a protective, decorative, or functional material or layer has been applied.

(2) "Hardboard" is a panel manufactured primarily from inter felted lignocellulosic fibers that are consolidated under heat and pressure in a hot-press.

(3) "Tileboard" means a premium interior wall paneling product made of hardboard that is used in high moisture area or areas of the home.

(b) This Rule applies to each flat wood paneling coatings source whose volatile organic compounds emissions meet the threshold established in 15A NCAC 02D .0902(b) at the facilities with flat wood paneling coating applications for the following products:

(1) class II finishes on hardboard panels;

(2) exterior siding;

(3) natural finish hardwood plywood panels;

(4) printed interior panels made of hardwood, plywood, and thin particleboard; and

(5) tileboard made of hardboard.

(c) Emissions of volatile organic compounds from any facility finished flat wood product operation subject to this Rule shall not exceed 2.1 pounds of volatile organic compounds per gallon material, excluding water and exempt compounds or 2.9 pounds of volatile organic compounds per gallon solids.

(d) EPA Method 24 of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of coating materials used at surface coating of flat wood paneling facilities, unless the facility maintains records to document the volatile organic compounds content of coating materials from the manufacturer.

(e) Any facility meeting applicability requirements of Paragraph (b) of this Rule that has chosen to use add-on controls for flat wood paneling coating operation rather than the emission limits established in Paragraph (c) of this Rule shall install control equipment with an overall control efficiency of 90 percent or use a combination of coating and add-on control equipment on a flat wood paneling coating operation to meet limits established in Paragraph (c) of this Rule.

(f) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1980;
Amended Eff. September 1, 2010; July 1, 1996; December 1, 1989; January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0936 GRAPHIC ARTS

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1980;
Amended Eff. December 1, 1993; December 1, 1989; January 1, 1985; June 1, 1981;
Repealed Eff. September 1, 2010.

15A NCAC 02D .0937 MANUFACTURE OF PNEUMATIC RUBBER TIRES

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Bead dipping" means the dipping of an assembled tire bead into a solvent-based cement.

(2) "Green tires" means assembled tires before molding and curing.

(3) "Green tire spraying" means spray coating release compounds inside and outside of green tires to remove air during the molding process and prevent the tire from sticking to the mold after curing completion.

(4) "Pneumatic rubber tire manufacture" means the production of passenger car tires, light and medium truck tires, and other tires manufactured on assembly lines.

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

(6) "Undertread cementing" means the application of a solvent-based cement to the underside of a tire tread.

(b) This Rule applies to undertread cementing, tread end cementing, bead dipping, and green tire spraying operations of pneumatic rubber tire manufacturing.

(c) Emissions of volatile organic compounds from any pneumatic rubber tire manufacturing plant shall not exceed:

(1) 25 grams of volatile organic compounds per tire from each undertread cementing operation;

(2) 4.0 grams of volatile organic compounds per tire from each tread end cementing operation;

(3) 1.9 grams of volatile organic compounds per tire from each bead dipping operation; or

(4) 24 grams of volatile organic compounds per tire from each green tire spraying operation.

(d) If the total volatile organic compound emissions from all undertread cementing, tread end cementing, bead dipping, and green tire spraying operations at a pneumatic rubber tire manufacturing facility does not exceed 50 grams per tire, Paragraph (c) of this Rule shall not apply.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1980;
Amended Eff. July 1, 1996; December 1, 1989; January 1, 1985.
Readopted Eff. November 1, 2020.

15A NCAC 02D .0938 PERCHLOROETHYLENE DRY CLEANING SYSTEM

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1980;
Amended Eff. December 1, 1989; January 1, 1985;
Repealed Eff. July 1, 1998.

15A NCAC 02D .0939 DETERMINATION OF VOLATILE ORGANIC COMPOUND EMISSIONS
15A NCAC 02D .0940 DETERMINATION OF LEAK TIGHTNESS AND VAPOR LEAKS
15A NCAC 02D .0941 ALTERNATIVE METHOD FOR LEAK TIGHTNESS
15A NCAC 02D .0942 DETERMINATION OF SOLVENT IN FILTER WASTE

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);*
Eff. July 1, 1980;
Amended Eff. December 1, 1989; July 1, 1988; May 1, 1985; January 1, 1985;
Repealed Eff. June 1, 2008.

15A NCAC 02D .0943 SYNTHETIC ORGANIC CHEMICAL AND POLYMER MANUFACTURING

(a) For the purposes of this Rule, the following definitions shall apply:

(1) "Closed vent system" means a system that is not open to the atmosphere and is composed of piping, connections, and if necessary, flow inducing devices that transport gas or vapor from a fugitive emission source to an enclosed combustion device or vapor recovery system.

(2) "Enclosed combustion device" means any combustion device that is not open to the atmosphere such as a process heater or furnace, but not a flare.

(3) "Fugitive emission source" means each pump, valve, safety/relief valve, open-ended valve, flange or other connector, compressor, or sampling system.

(4) "In gas vapor service" means that the fugitive emission source contains process fluid that is in the gaseous state at operating conditions.

(5) "In light liquid service" means that the fugitive emission source contains a liquid having:

(A) a vapor pressure of one or more of the components greater than 0.3 kilopascals at 201° C; and

(B) a total concentration of the pure components having a vapor pressure greater than 0.3 kilopascals at 201° C equal to or greater than 10 percent by weight, and the fluid is a liquid at operating conditions.

(6) "Open-ended valve" means any valve, except safety/relief valves, with one side of the valve seat in contact with process fluid and one side that is open to the atmosphere, either directly or through open piping.

(7) "Polymer manufacturing" means the industry that produces, as intermediates or final products, polyethylene, polypropylene, or polystyrene.

(8) "Process unit" means equipment assembled to produce, as intermediates or final products, polyethylene, polypropylene, polystyrene, or one or more of the chemicals listed in 40 CFR 60.489. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the final product.

(9) "Quarter" means a three-month period. The first quarter concludes at the end of the last full month during the 180 days following initial start-up.

(10) "Synthetic organic chemical manufacturing" means the industry that produces, as intermediates or final products, one or more of the chemicals listed in 40 CFR Part 60.489.

(b) This Rule applies to synthetic organic chemicals manufacturing facilities and polymer manufacturing facilities.

(c) The owner or operator of a synthetic organic chemical manufacturing facility or a polymer manufacturing facility shall not cause, allow, or permit:

(1) any liquid leakage of volatile organic compounds; or

(2) any gaseous leakage of volatile organic compound of 10,000 ppm or greater from any fugitive emission source.

The owner or operator of these facilities shall control emissions of volatile organic compounds from open-ended valves as described in Paragraph (f) of this Rule.

(d) The owner or operator shall visually inspect each week every pump in light liquid service. If there are indications of liquid leakage, the owner or operator shall repair the pump within 15 days after detection, except as provided in Paragraph (k) of this Rule.

(e) Using procedures in 15A NCAC 02D .2600, 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 monitor safety/relief valves after each overpressure relief to ensure the valve has properly reseated. If a volatile organic compound concentration of 10,000 ppm or greater is measured, the owner or operator shall repair the component within 15 days after detection, except as provided in Paragraph (k) of this Rule. Exceptions to the quarterly monitoring frequency are provided for in Paragraphs (h), (i), and (j) of this Rule.

(f) The owner or operator shall install on each open-ended valve:

(1) a cap;

(2) a blind flange;

(3) a plug; or

(4) a second closed valve that shall remain attached to seal the open end at all times except during operations requiring process fluid flow through the opened line.

(g) If any fugitive emission source appears to be leaking on the basis of sight, smell, or sound, it shall be repaired within 15 days after detection, except as provided in Paragraph (k) of this Rule.

(h) If after four consecutive quarters of monitoring, no more than two percent of the valves in gas/vapor service or in light liquid service are found leaking more than 10,000 ppm of volatile organic compounds, then the owner or operator may monitor valves for gaseous leaks only every third quarter. If the number of these valves leaking more than 10,000 ppm of volatile organic compounds remains at or below two percent, these valves need only be monitored for gaseous leaks every third quarter. However, if more than two percent of these valves are found leaking more than 10,000 ppm of volatile organic compounds, they shall be monitored every quarter until four consecutive quarters are monitored that have no more than two percent of these valves leaking more than 10,000 ppm of volatile organic compounds.

(i) When a fugitive emission source is unsafe to monitor because of extreme temperatures, pressures, or other reasons, the owner or operator of the facility shall monitor the fugitive emission source only when process conditions are such that the fugitive emission source is not operating under extreme conditions. The Director may allow monitoring of these fugitive emission sources less frequently than each quarter, provided they are monitored at least once per year.

(j) Any fugitive emission source more than 12 feet above a permanent support surface shall be monitored once per year.

(k) The repair of a fugitive emission source may be delayed until the next turnaround if the repair is technically infeasible without a complete or partial shutdown of the process unit.

(l) The owner or operator of the facility shall maintain records in accordance with 15A NCAC 02D .0903, which shall include:

(1) an identification of the source being inspected or monitored;
(2) the dates of inspection or monitoring;
(3) the results of inspection or monitoring;
(4) the action taken if a leak was detected;
(5) the type of repair made and when it was completed; and
(6) if the repair was delayed, an explanation as to why.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. May 1, 1985;
Amended Eff. June 1, 2008; March 1, 1991; December 1, 1989;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0944 MANUFACTURE OF POLYETHYLENE: POLYPROPYLENE AND POLYSTYRENE

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "By-product and diluent recovery operation" means the process that separates the diluent from the by-product (atactic) and purifies and dries the diluent for recycle.

(2) "Continuous mixer" means the process that mixes polymer with anti-oxidants.

(3) "Decanter" means the process that separates the diluent/crude product slurry from the alcohol-water solution by decantation.

(4) "Ethylene recycle treater" means the process that removes water and other impurities from the recovered ethylene.

(5) "High-density polyethylene plants using liquid phase slurry processes" means plants that produce high-density polyethylene in which the product, polyethylene, is carried as a slurry in a continuous stream of process diluent, usually pentane or isobutane.

(6) "Neutralizer" means the process that removes catalyst residue from the diluent/crude produce slurry.

(7) "Polypropylene plants using liquid phase process" means plants that produce polypropylene in which the product, polypropylene, is carried as a slurry in a continuous stream of process diluent, usually hexane.

(8) "Polystyrene plants using continuous processes" means plants that produce polystyrene in which the product, polystyrene, is transferred in a continuous stream in a molten state.

(9) "Product devolatilizer system" means the process that separates unreacted styrene monomer and by products from the polymer melt.

(10) "Reactor" means the process in which the polymerization takes place.

(b) This Rule applies to:

(1) polypropylene plants using liquid phase processes;

(2) high-density polyethylene plants using liquid phase slurry processes; and

(3) polystyrene plants using continuous processes.

(c) For polypropylene plants subject to this Rule, the emissions of volatile organic compounds shall be reduced by 98 percent by weight or to 20 ppm, whichever is less stringent, from:

(1) reactor vents;

(2) decanter vents;

(3) neutralizer vents;

(4) by-product and diluent recovery operation vents;

(5) dryer vents; and

(6) extrusion and pelletizing vents.

(d) For high-density polyethylene plants subject to this Rule, the emissions of volatile organic compounds shall be reduced by 98 percent by weight or to 20 ppm, whichever is less stringent, from:

(1) ethylene recycle treater vents;

(2) dryer vents; and

(3) continuous mixer vents.

(e) For polystyrene plants subject to this Rule, the emissions of volatile organic compounds shall not exceed 0.24 pounds per ton of product from the product devolatilizer system.

(f) If flares are used to comply with this Rule, all of the following conditions shall be met:

(1) visible emissions shall not exceed five minutes in any two-hour period;

(2) a flame in the flare shall be present;

(3) if the flame is steam-assisted or air-assisted, the net heating value shall be at least 300 Btu per standard cubic foot. If the flame is non-assisted, the net heating value shall be at least 200 Btu per standard cubic foot; and

(4) if the flare is steam-assisted or non-assisted, the exit velocity shall be no more than 60 feet per second. If the flare is air-assisted, the exit velocity shall be no more than (8.706 + 0.7084 HT) feet per second, where HT is the net heating value.

A flare that meets the conditions given in Subparagraphs (1) through (4) of this Paragraph are presumed to achieve 98 percent destruction of volatile organic compounds by weight. If the owner or operator of the source chooses to use a flare that fails to meet one or more of these conditions, he or she shall demonstrate to the Director that the flare shall destroy at least 98 percent of the volatile organic compounds by weight. To determine if the specifications for the flare are being met, the owner or operator of a source using the flare to control volatile organic compound

emissions shall install, operate, and maintain necessary monitoring instruments and shall keep records as required by 15A NCAC 02D .0903.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. May 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0945 PETROLEUM DRY CLEANING

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Cartridge filter" means perforated canisters containing filtration paper or filter paper and activated carbon that are used in a pressurized system to remove solid particles and fugitive dyes from soil-laden solvent, together with the piping and ductwork used in the installation of this device.

(2) "Containers and conveyors of solvent" means piping, ductwork, pumps, storage tanks, and other ancillary equipment that are associated with the installation and operation of washers, dryers, filters, stills, and settling tanks.

(3) "Dry cleaning" means a process for the cleaning of textiles and fabric products in which articles are washed in a non-aqueous solution or solvent and then dried by exposure to a heated air stream.

(4) "Dryer" means a machine used to remove petroleum solvent from articles of clothing or other textile or leather goods, after washing and removing of excess petroleum solvent, together with the piping and ductwork used in the installation of this device.

(5) "Perceptible leaks" means any petroleum solvent vapor or liquid leaks that are visible, such as pools or droplets of liquid, open containers of solvent, or solvent laden waste standing open to the atmosphere, or bubble after application of a soap solution.

(6) "Petroleum solvent" means organic material produced by petroleum distillation comprising of a hydrocarbon range of eight to 12 carbon atoms per organic molecule that exists as a liquid under standard conditions.

(7) "Petroleum solvent dry cleaning" means a dry cleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.

(8) "Settling tank" means a container that gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of the device.

(9) "Solvent filter" means a discrete solvent filter unit containing a porous medium which traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.

(10) "Solvent recovery dryer" means a class of dry cleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.

(11) "Still" means a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.

(12) "Washer" means a machine that agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.

(b) This Rule applies to petroleum solvent washers, dryers, solvent filters, settling tanks, stills, and other containers and conveyors of petroleum solvent that are used in petroleum solvent dry cleaning facilities that consume 32,500 gallons or more of petroleum solvent annually.

(c) The owner or operator of a petroleum solvent dry cleaning dryer subject to this Rule shall:

(1) limit emissions of volatile organic compounds to the atmosphere to an average of 3.5 pounds of volatile organic compounds per 100 pounds dry weight of articles dry cleaned; or

(2) install and operate a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 milliliters per minute is attained.

(d) The owner or operator of a petroleum solvent filter subject to this Rule shall:

(1) reduce the volatile organic compound content in all filter wastes to 1.0 pound or less per 100 pounds dry weight of articles dry cleaned, before disposal and exposure to the atmosphere; or

(2) install and operate a cartridge filter and drain the filter cartridges in their sealed housings for eight hours or more before their removal.

(e) The owner or operator of a petroleum solvent dry cleaning facility subject to this Rule shall inspect the facility every 15 days and shall repair all perceptible leaks within 15 business days after identifying the sources of the leaks. If the necessary repair parts are not on hand, the owner or operator shall order these parts within 15 business days and repair the leaks no later than 15 business days following the arrival of the necessary parts. The owner or operator shall maintain records, in accordance with 15A NCAC 02D .0903, of when the inspections were performed, what equipment was inspected, leaks found, repairs made, and when the repairs were completed.

(f) To determine compliance with Subparagraph (c)(1) of this Rule, the owner or operator shall use the appropriate test method in 15A NCAC 02D .2613(g) and shall:

(1) field calibrate the flame ionization analyzer with propane standards;

(2) determine in a laboratory the ratio of the flame ionization analyzer response to a given parts per million by volume concentration of propane to the response to the same parts per million concentration of the volatile organic compounds to be measured;

(3) determine the weight of volatile organic compounds vented to the atmosphere by:

(A) multiplying the ratio determined in Subparagraph (2) of this Paragraph by the measured concentration of volatile organic compound gas, as propane, as indicated by the flame ionization analyzer response output record;

(B) converting the parts per million by volume value calculated in Part (A) of this Subparagraph into a mass concentration value for the volatile organic compounds present; and

(C) multiplying the mass concentration value calculated in Part (B) of this Subparagraph by the exhaust flow rate; and

(4) calculate and record the dry weight of articles dry cleaned. The test shall be repeated for normal operating conditions that encompass at least 30 dryer loads that total not less than 4,000 pounds dry weight and represents a normal range of variation in fabrics, solvents, load weights, temperatures, flow rates, and process deviations.

(g) To determine compliance with Subparagraph (c)(2) of this Rule, the owner or operator shall verify that the flow rate of recovered solvent from the solvent recovery dryer at the termination of the recovery phase is no greater than 50 milliliters per minute. This one-time procedure shall be conducted for a duration of not less than two weeks during which not less than 50 percent of the dryer loads shall be monitored for their final recovered solvent flow rate. Near the end of the recovery cycle, the flow of recovered solvent shall be diverted to a graduated cylinder. The cycle shall continue until the minimum flow of solvent is 50 milliliters per minute. The type of articles cleaned and the total length of the cycle shall be recorded and retained in accordance with 15A NCAC 02D .0903.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. May 1, 1985;
Amended Eff. June 1, 2008;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0946 COMPLIANCE SCHEDULE: GASOLINE HANDLING

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. May 1, 1990;
Repealed Eff. April 1, 1997.

15A NCAC 02D .0947 MANUFACTURE OF SYNTHESIZED PHARMACEUTICAL PRODUCTS

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Production equipment exhaust system" means a device for collecting and directing out of the work area fugitive emissions of volatile organic compounds from reactor openings, centrifuge openings, and other vessel openings for the purpose of protecting workers from excessive exposure to volatile organic compounds.

(2) "Synthesized pharmaceutical products manufacturing" means manufacture of pharmaceutical products by chemical synthesis.

(b) This Rule applies to synthesized pharmaceutical products manufacturing facilities.

(c) The owner or operator of a synthesized pharmaceutical products manufacturing facility shall control the emissions of volatile organic compounds from:

(1) reactors, distillation operations, crystallizers, centrifuges, and vacuum dryers that have the potential to emit 15 pounds per day or more of volatile organic compounds with surface condensers that meet the requirements of Paragraph (e) of this Rule or equivalent controls;

(2) air dryers and production equipment exhaust system by reducing emissions of volatile organic compounds:

(A) by 90 percent if they are 330 pounds per day or more; or

(B) to 33 pounds per day if they are less than 330 pounds per day;

(3) storage tanks by:

(A) providing a vapor balance system or equivalent control that is at least 90 percent effective in reducing emissions from truck or railcar deliveries to storage tanks with capacities greater than 2,000 gallons storing volatile organic compounds with a vapor pressure greater than 4.1 pounds per square inch at 68° F; and

(B) installing pressure/vacuum conservation vents, which shall be set at plus or minus 0.8 inches of water unless a more effective control system is used, on all storage tanks that store volatile organic compounds with a vapor pressure greater than 1.5 pounds per square inch at 68°F;

(4) centrifuges containing volatile organic compounds, rotary vacuum filters processing liquid containing volatile organic compounds, and other filters having an exposed liquid surface where the liquid contains volatile organic compounds by enclosing those centrifuges and filters that contain or process volatile organic compounds with a vapor pressure of 0.5 pounds per square inch or more at 68°F; and

(5) in-process tanks by installing covers, which shall remain closed except when production, sampling, maintenance, or inspection procedures require operator access.

(d) The owner or operator of a synthesized pharmaceutical products manufacturing facility shall repair as expeditiously as possible all leaks from which liquid volatile organic compounds can be seen running or dripping. This repair shall take place at least within 15 days after which said leak is discovered, unless the leaking component cannot be repaired before the process is shutdown, in which case the leaking component must be repaired before the process is restarted.

(e) If surface condensers are used to comply with Subparagraph (c)(1) of this Rule, the condenser outlet temperature shall not exceed:

(1) -13°F when condensing volatile organic compounds of vapor pressure greater than 5.8 pounds per square inch at 68°F;

(2) 5°F when condensing volatile organic compounds of vapor pressure greater than 2.9 pounds per square inch at 68°F;

(3) 32°F when condensing volatile organic compounds of vapor pressure greater than 1.5 pounds per square inch at 68°F;

(4) 50°F when condensing volatile organic compounds of vapor pressure greater than 1.0 pounds per square inch at 68°F; or

(5) 77°F when condensing volatile organic compounds of vapor pressure greater than 0.5 pounds per square inch at 68°F.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1994;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0948 VOC EMISSIONS FROM TRANSFER OPERATIONS

(a) This Rule applies to operations transferring volatile organic compounds from a storage tank to cargo tanks or railroad tank cars not specified by 15A NCAC 02D .0926, .0927, or .0928.

(b) The owner or operator of a facility to which this Rule applies shall not load in any one day more than 20,000 gallons of volatile organic compounds with a vapor pressure of 1.5 pounds per square inch or greater under actual conditions into any cargo tank or railroad tank car from any loading operation unless the loading uses submerged loading through boom loaders extending down into the compartment being loaded or by other methods at least as efficient based on source testing or engineering calculations.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1994;
Amended Eff. July 1, 2000;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0949 STORAGE OF MISCELLANEOUS VOLATILE ORGANIC COMPOUNDS

(a) This Rule applies to the storage of volatile organic compounds in stationary tanks, reservoirs, or other containers with a capacity greater than 50,000 gallons not regulated by 15A NCAC 02D .0925 or .0933.

(b) The owner or operator of any source shall not place, store, or hold in any stationary tank, reservoir, or other container with a capacity greater than 50,000 gallons, any liquid volatile organic compound with a vapor pressure of 1.5 pounds per square inch absolute or greater under actual storage conditions unless such tank, reservoir, or other container:

(1) is a pressure tank capable of maintaining working pressures to prevent vapor gas loss into the atmosphere at all time; or

(2) is designed and equipped with one of the following vapor loss control devices:

(A) a floating pontoon, double deck type floating roof, or internal pan type floating roof equipped with closure seals to enclose any space between the cover's edge and compartment wall. This control equipment shall not be permitted for volatile organic compounds with a vapor pressure of 11.0 pounds per square inch absolute or greater under actual storage conditions. All tank gauging or sampling devices shall be gas-tight except when tank gauging or sampling is taking place; or

(B) a vapor recovery system or other equipment or means of air pollution control that reduces the emission of organic materials into the atmosphere by at least 90 percent by weight. All tank gauging or sampling devices shall be gas-tight except when tank gauging or sampling is taking place.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1994;
Amended Eff. July 1, 2000;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0950 INTERIM STANDARDS FOR CERTAIN SOURCE CATEGORIES

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1994;
Amended Eff. May 1, 1995;
Repealed Eff. July 1, 2000.

15A NCAC 02D .0951 RACT FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

(a) Facilities required to install reasonably available control technology pursuant to 15A NCAC 02D .0902(f) shall determine the emissions control level according to this Rule. If the only other applicable emissions control rule in this Section for the facility is 15A NCAC 02D .0958, then both this Rule and 15A NCAC 02D .0958 apply.

(b) This Rule does not apply to architectural or maintenance coatings.

(c) The owner or operator of any facility to which this Rule applies shall comply by either of the following:

(1) install and operate reasonably available control technology as set forth by category-specific emission standards defined in this Section; or

(2) install and operate alternative reasonably available control technology based on the Division's technical analysis of the information provided in Paragraph (d) of this Rule. All reasonably available control technology demonstrations, and any modifications or changes to those determinations, approved or determined by the Division pursuant to this Subparagraph and Paragraph (d) of this Rule, shall be submitted by the Division to the U.S. EPA as a revision to the State Implementation Plan. No reasonably available control technology demonstration, nor any modification or change to a demonstration, approved or determined by the Division pursuant to this Subparagraph, shall revise the State Implementation Plan or be used as a State Implementation Plan credit, until it is approved by the U.S. EPA as a state implementation plan revision.

(d) If the owner or operator of a facility chooses to install reasonably available control technology under Subparagraph (c)(2) of this Rule, the owner or operator shall submit to the Director:

(1) the name and location of the facility;

(2) information identifying the source for which a reasonably available control technology limitation or standard is being proposed;

(3) a demonstration that shows the proposed reasonably available control technology limitation or standard advances attainment equivalent to or better than application of requirements under Subparagraph (c)(1) of this Rule; and

(4) a proposal for demonstrating compliance with the proposed reasonably available control technology limitation or standard.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1994;
Amended Eff. May 1, 2013; September 1, 2010; July 1, 2000; July 1, 1996;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0952 PETITION FOR ALTERNATIVE CONTROLS FOR RACT

(a) This Rule applies to all sources regulated by this Section.

(b) If the owner or operator of any source of volatile organic compounds subject to the requirements of this Section can demonstrate that compliance with rules in this Section would be technologically or economically infeasible, he or she may petition the Director to allow the use of alternative operational or equipment controls for the reduction of volatile organic compound emissions.

(c) The petition shall include:

(1) the name and address of the company and the name and telephone number of the petitioner;

(2) a description of all operations conducted at the location to which the petition applies and the purpose that the volatile organic compound emitting equipment serves within the operations;

(3) reference to the specific operational and equipment controls under the rules of this Section for which alternative operational or equipment controls are proposed;

(4) a description of the proposed alternative operational or equipment controls, the magnitude of volatile organic compound emission reduction that will be achieved, and the quantity and composition of volatile organic compounds that will be emitted if the alternative operational or equipment controls are instituted;

(5) a plan, which will be instituted in addition to the proposed alternative operational or equipment controls, to reduce, where technologically and economically feasible, volatile organic compound emissions from other source operations at the facility, further than that required by the rules of this Section, if these sources exist at the facility, such that aggregate volatile organic compound emissions from the facility will in no case be greater through application of the alternative control than would be allowed through conformance with the rules of this Section;

(6) a schedule for the installation or institution of the alternative operational or equipment controls in conformance with 15A NCAC 02D .0909, as applicable; and

(7) certification that emissions of all other air contaminants from the subject source are in compliance with all applicable local, State, and federal laws and regulations.

The petition may include a copy of the permit application.

(d) The Director shall approve a petition for alternative control if:

(1) the petition is submitted in accordance with Paragraph (c) of this Rule;

(2) the Director determines that the petitioner cannot comply with the rules in question because of technological or economical infeasibility;

(3) all other air contaminant emissions from the facility are in compliance with, or under a schedule for compliance as expeditiously as practicable with, all applicable local, State, and federal regulations; and

(4) the petition contains a schedule for achieving and maintaining reduction of volatile organic compound emissions to the maximum extent feasible and as expeditiously as practicable.

(e) When controls different from those specified in the appropriate emission standards in this Section are approved by the Director, the permit shall contain a condition stating such controls.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 1994;
Amended Eff. September 1, 2010; January 1, 2009; April 1, 2003; July 1, 1995; May 1, 1995;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0953 VAPOR RETURN PIPING FOR STAGE II VAPOR RECOVERY

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a); 150B-21.6;*
Eff. July 1, 1994;
Amended Eff. July 1, 1998; July 1, 1996;
Repealed Eff. January 1, 2009.

15A NCAC 02D .0954 STAGE II VAPOR RECOVERY

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a); 150B-21.6;*
Eff. May 1, 1995;
Amended Eff. April 1, 2003; April 1, 1997; July 1, 1996; April 1, 1996; May 1, 1995;
Repealed Eff. January 1, 2009.

15A NCAC 02D .0955 THREAD BONDING MANUFACTURING

(a) For the purpose of this Rule, the following definitions apply:

(1) "Capture hoods" means any device designed to remove emissions from the solution bath tray areas during the manufacturing process.

(2) "Curing" means exposing coated threads to high temperatures in an oven until the nylon solution mixture hardens, vaporizing the solvents, and bonds to the threads.

(3) "Day tanks" means holding tanks that contain nylon solution mixture ready for use.

(4) "Drying ovens" means any apparatus through which the coated threads are conveyed while curing.

(5) "Enclose" means to construct an area within the plant that has a separate ventilation system and is maintained at a slightly negative pressure.

(6) "Fugitive emissions" means emissions that cannot be collected and routed to a control system.

(7) "Nylon thread coating process" means a process in which threads are coated with a nylon solution and oven cured.

(8) "Permanent label" means a label that cannot be easily removed or defaced by any person.

(9) "Polyester solution mixture" means a mixture of polyester and solvents that is used for thread coating.

(10) "Storing" means reserving material supply for future use.

(11) "Thread bonding manufacturing" means coating single or multi-strand threads with plastic (nylon or polyester solution mixture) to impart properties such as additional strength and durability, water resistance, and moth repellency.

(12) "Transporting" means moving material supply from one place to another.

(b) This Rule shall apply to any thread bonding manufacturing facility with total uncontrolled exhaust emissions from nylon thread coating process collection hoods and drying ovens of volatile organic compounds (VOC) equal to or greater than 100 tons per year.

(c) Annual VOC emissions from each nylon thread coating process shall be determined by multiplying the hourly amount of VOC consumed by the total scheduled operating hours per year.

(d) Emissions from each nylon thread coating process subject to this Rule shall be reduced:

(1) by at least 95 percent by weight; or

(2) by installing a thermal incinerator with a temperature of at least 1600°F and a residence time of at least 0.75 seconds.

(e) The owner or operator of any thread bonding manufacturing facility shall:

(1) enclose the nylon thread coating process area of the plant to prevent fugitive emissions from entering other plant areas;

(2) store all VOC-containing materials in covered tanks or containers;

(3) ensure that equipment used for transporting or storing VOC containing material does not leak and that all lids and seals used by the equipment are kept in the closed position at all times except when in actual use;

(4) not cause or allow VOC-containing material to be splashed, spilled, or discarded in sewers;

(5) hold only enough nylon solution mixture in the day tanks to accommodate daily process times measured in hours; and

(6) place permanent and conspicuous labels on all equipment affected by Subparagraphs (3) through (5) of this Paragraph summarizing handling procedures described in these Subparagraphs for VOC-contaminated materials at the nylon thread coating process.

(f) The owner or operator of a thread bonding manufacturing facility shall notify the Director within 30 days after the calculated annual emissions of VOC from nylon thread coating processes equal or exceed 100 tons per year. The owner or operator shall submit within six months after such calculation a permit application including a schedule to bring the facility into compliance with this Rule.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a);*
Eff. May 1, 1995;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0956 GLASS CHRISTMAS ORNAMENT MANUFACTURING

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Coating" means the application of a layer of material, either by dipping or spraying, in a relatively unbroken film onto glass Christmas ornaments.

(2) "Curing ovens" means any apparatus through which the coated glass Christmas ornaments are conveyed while drying.

(3) "Glass Christmas ornament" means any glass ornament that is coated with decorative exterior and is traditionally hung on Christmas trees.

(4) "Glass Christmas ornament manufacturing facility" means a facility that coats glass Christmas ornaments through the process of interior coating or exterior coating that uses either mechanical or hand-dipping methods, drying (curing), cutting, and packaging operations.

(5) "Mechanical coating lines" means equipment that facilitates mechanized dipping or spraying of a coating onto glass Christmas ornaments in which the neck of each ornament is held mechanically during the coating operation.

(6) "Solvent-borne coating" means a coating that uses organic solvents as an ingredient.

(b) This Rule applies to any curing ovens servicing the mechanical coating lines in the coating of glass Christmas ornaments at glass Christmas tree ornament manufacturing facilities with potential volatile organic compound (VOC) emissions of 100 tons per year or more.

(c) This Rule does not apply to glass Christmas ornament manufacturing facilities that do not use solvent-borne coating materials.

(d) Emissions of VOC from each curing oven shall be reduced by at least 90 percent by weight.

(e) If the owner or operator of a facility subject to this Rule chooses to use low VOC content, solvent-borne coatings to reduce emissions, the emission reduction from the use of these coatings shall be equivalent to that achieved using add-on controls.

(f) The owner or operator of a Christmas tree ornament manufacturing facility shall notify the Director within 30 days after the calculated annual emissions of VOC from the facility equal or exceed 100 tons per year. The owner or operator shall submit within six months after such calculation a permit application including a schedule to bring the facility into compliance with this Rule.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a);*
Eff. May 1, 1995;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0957 COMMERCIAL BAKERIES

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Baking Oven" means an oven used at any time for the purpose of baking yeast-leavened products, including bread and rolls.

(2) "Commercial Bakery" means an establishment where bread and baked goods are produced.

(b) This Rule applies in accordance with 15A NCAC 02D .0902 to any baking oven at a commercial bakery with potential volatile organic compound (VOC) emissions of 100 tons per year or more. Daily volatile organic compound emissions shall be determined according to the calculation procedures in Paragraph (d) of this Rule.

(c) Emissions of VOC from baking ovens subject to this Rule shall be reduced by at least:

(1) 90 percent by weight; or

(2) 60 percent by weight, if biofiltration is used.

(d) Daily volatile organic compound emissions from each commercial baking oven in a commercial bakery shall be determined according to the following: $EtOH = 0.40425 + 0.444585[(Y \times T) + (S \times t)]$, where:

(1) EtOH = pounds ethanol per ton of baked bread;

(2) Y = baker's percent yeast in sponge to the nearest tenth of a percent;

(3) T = total time of fermentation in hours to the nearest tenth of an hour;

(4) S = baker's percent of yeast added to dough to the nearest tenth of a percent; and

(5) t = proof time plus floor time in hours to the nearest tenth of an hour.

(e) The owner or operator of a commercial bakery shall notify the Director within 30 days after the calculated emissions of VOC from the bakery equal or exceed 100 tons per year. The owner or operator shall submit within six months after such calculation a permit application including a schedule to bring the facility into compliance with this Rule.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a);*
Eff. May 1, 1995;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0958 WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

(a) This Rule applies to all facilities that use volatile organic compounds as solvents, carriers, material processing media, or industrial chemical reactants, or in other similar uses, or that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions.

(b) This Rule does not apply to:

(1) architectural or maintenance coatings; or

(2) sources subject to 40 CFR Part 63, Subpart JJ.

(c) The owner or operator of any facility subject to this Rule shall:

(1) store all material, including waste material, containing volatile organic compounds in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use;

(2) clean up spills as soon as possible following proper safety procedures;

(3) store wipe rags in closed containers;

(4) not clean sponges, fabric, wood, paper products, and other absorbent materials;

(5) drain solvents used to clean supply lines and other coating equipment into closable containers and close containers immediately after each use;

(6) clean mixing, blending, and manufacturing vats and containers by adding cleaning solvent and closing the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be poured into a closed container.

(d) When cleaning parts, the owner or operator of any facility subject to this Rule shall:

(1) flush parts in the freeboard area;

(2) take precautions to reduce the pooling of solvent on and in the parts;

(3) tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer;

(4) not fill cleaning machines above the fill line;

(5) not agitate solvent to the point of causing splashing.

(e) The owner or operator of a source on which a control device has been installed shall continue to maintain and operate the control device unless the Director determines that the removal of the control device shall not cause or contribute to a violation of the ozone ambient air quality standard, as set forth in 15A NCAC 02D .0405.

(f) The owner or operator of a source that has complied with 15A NCAC 02D .0518 prior to July 1, 2000, by complying with a rule in this Section, shall continue to comply with that Rule unless the Director determines that if the source ceases to comply with that rule, it shall not cause or contribute to a violation of the ozone ambient air quality standard, as set forth in 15A NCAC 02D .0405.

(g) All sources at a facility subject to this Rule shall be permitted unless they are exempted from permitting by 15A NCAC 02Q .0102.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 2000;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0958 WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

(a) This Rule applies to all facilities that use volatile organic compounds as solvents, carriers, material processing media, or industrial chemical reactants, or in other similar uses, or that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions.

(b) This Rule does not apply to:

(1) architectural or maintenance coatings; or

(2) sources subject to 40 CFR Part 63, Subpart JJ.

(c) The owner or operator of any facility subject to this Rule shall:

(1) store all material, including waste material, containing volatile organic compounds in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use;

(2) clean up spills as soon as possible following proper safety procedures;

(3) store wipe rags in closed containers;

(4) not clean sponges, fabric, wood, paper products, and other absorbent materials;

(5) drain solvents used to clean supply lines and other coating equipment into closable containers and close containers immediately after each use;

(6) clean mixing, blending, and manufacturing vats and containers by adding cleaning solvent and closing the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be poured into a closed container.

(d) When cleaning parts, the owner or operator of any facility subject to this Rule shall:

(1) flush parts in the freeboard area;

(2) take precautions to reduce the pooling of solvent on and in the parts;

(3) tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer;

(4) not fill cleaning machines above the fill line;

(5) not agitate solvent to the point of causing splashing.

(e) The owner or operator of a source on which a control device has been installed shall continue to maintain and operate the control device unless the Director determines that the removal of the control device shall not cause or contribute to a violation of the ozone ambient air quality standard, as set forth in 15A NCAC 02D .0405.

(f) The owner or operator of a source that has complied with 15A NCAC 02D .0518 prior to July 1, 2000, by complying with a rule in this Section, shall continue to comply with that Rule unless the Director determines that if the source ceases to comply with that rule, it shall not cause or contribute to a violation of the ozone ambient air quality standard, as set forth in 15A NCAC 02D .0405.

(g) All sources at a facility subject to this Rule shall be permitted unless they are exempted from permitting by 15A NCAC 02Q .0102.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. July 1, 2000;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0959 PETITION FOR SUPERIOR ALTERNATIVE CONTROLS

(a) This Rule applies to all sources regulated by this Section.

(b) If the owner or operator of any source of volatile organic compounds subject to the requirements of this Section can demonstrate that an alternative operational or equipment control is superior to the required control, he or she may petition the Director to allow the use of alternative operational or equipment controls for the reduction of volatile organic compound emissions.

(c) The petition shall include:

(1) the name and address of the company and the name and telephone number of the petitioner;

(2) a description of all operations conducted at the location to which the petition applies and the purpose that the volatile organic compound emitting equipment serves within the operations;

(3) reference to the specific operational and equipment controls under the rules of this Section for which alternative operational or equipment controls are proposed;

(4) a description of the proposed alternative operational or equipment controls, the magnitude of volatile organic compound emission reduction that will be achieved, and the quantity and composition of volatile organic compounds that will be emitted if the alternative operational or equipment controls are instituted; and

(5) certification that emissions of all other air contaminants from the subject source are in compliance with all applicable local, State, and federal laws and regulations.

The petition may include a copy of the permit application.

(d) The Director shall approve a petition for alternative control if:

(1) the petition is submitted in accordance with Paragraph (c) of this Rule;

(2) the Director determines that the proposed alternative operational or equipment control is superior to the required controls;

(3) all other air contaminant emissions from the facility are in compliance with, or under a schedule for compliance as expeditiously as practicable with, all applicable local, State, and federal regulations; and

(4) the petition contains a schedule for achieving and maintaining reduction of volatile organic compound emissions to the maximum extent feasible and as expeditiously as practicable.

(e) When controls different from those specified in the appropriate emission standards in this Section are approved by the Director, the permit shall contain a condition stating such controls.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. April 1, 2003;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0960 CARGO TANK LEAK TESTER REPORT

(a) Purpose. The purpose of this Rule is to establish procedures for cargo tank testing facilities to perform leak tightness tests on gasoline cargo tanks as defined in 15A NCAC 02D .0932.

(b) Leak testing report. The certified facility performing the test shall give a copy of the leak testing report to the cargo tank owner and shall retain a copy of the leak testing report. The leak testing report shall contain the following information:

(1) the name, address, and telephone number of cargo tank testing facility performing the leak test;
(2) the name and signature of the individual performing the leak test;
(3) the name and address of the owner of the tank;
(4) the identification number of the tank;
(5) documentation of tests performed including the date and summary or results;
(6) continued qualification statement and returned to service status; and
(7) a list or description of identified corrective repairs to the tank. If none are performed then the report shall state "no corrective repairs performed."

(c) Record retention. The cargo tank testing facility performing the test and the owner of the cargo tank shall keep the leak testing report for at least two years. Leak testing reports shall be made available to the Division upon request.

(d) Verification of leak tightness. The Division may use Method 21 of Appendix A to 40 CFR Part 60 to verify the leak tightness of a tank.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5), (13);*
Eff. April 1, 2003;
Amended Eff. July 1, 2007;
Readopted Eff. October 1, 2020.

15A NCAC 02D .0961 OFFSET LITHOGRAPHIC PRINTING AND LETTERPRESS PRINTING

(a) For the purposes of this Rule, the definitions listed in this Paragraph and 15A NCAC 02D .0101 and .0902 shall apply.

(1) "Composite partial vapor pressure" means the sum of the partial pressure of the compounds defined as volatile organic compounds. Volatile organic compounds composite partial vapor pressure is calculated as follows:

$$PP_c = \sum_{i=1}^{n} \frac{(W_i)(VP_i)/MW_i}{\frac{W_w}{MW_w} + \frac{W_c}{MW_c} + \sum_{i=1}^{n} \frac{W_i}{MW_i}}$$

Where:

Wi = Weight of the "i" volatile organic compound, in grams

Ww = Weight of water, in grams

Wc = Weight of exempt compound, in grams

MWi = Molecular weight of the "i" volatile organic compound, in g/g-mole

MWw = Molecular weight of water, in g/g-mole

MWc = Molecular weight of exempt compound, in g/g-mole

PPc = Volatile organic compounds composite partial vapor pressure at 20 degrees Celsius (68 degrees Fahrenheit), in mm Hg

VPi = Vapor pressure of the "i" volatile organic compound at 20 degrees Celsius (68 degrees Fahrenheit), in mm Hg

(2) "First installation date" means the actual date when this control device becomes operational. This date does not change if the control device is later redirected to a new press.

(3) "Fountain solution" means water-based solution that applies to lithographic plate to render the non-image areas unreceptive to the ink.

(4) "Heatset" means any operation in which heat is required to evaporate ink oils from the printing ink, excluding ultraviolet (UV) curing, electron beam curing, and infrared drying.

(5) "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.

(6) "Non-heatset" means a lithographic printing process where the printing inks are set by absorption or oxidation of the ink oil, not by evaporation of the ink oils in a dryer. For the purposes of this Rule, use of an infrared heater or printing conducted using ultraviolet-cured or electron beam-cured inks is considered non-heatset.

(7) "Offset lithography" means a printing process that uses sheet-fed or web method of press feeding and transfers ink from the lithographic plate to a rubber-covered intermediate "blanket" cylinder and then from the blanket cylinder to the substrate.

(8) "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, heatset web dryer, ultraviolet or electron beam curing units, or infrared heating units.

(9) "Sheet-fed printing" means offset lithographic printing when individual sheets of paper or other substrate are fed to the press.

(10) "Web printing" means offset lithographic printing when continuous rolls of substrate material are fed to the press and rewound or cut to size after printing.

(b) This Rule applies to any offset lithographic and any letterpress printing operations sources that are not covered by 15A NCAC 02D .0966(c)(1) and whose emissions of volatile organic compounds exceed:

(1) the threshold established in 15A NCAC 02D .0902(b) and (f); or

(2) an equivalent level of three tons per 12-consecutive month rolling period.

(c) Volatile organic compounds content in the fountain solution for on-press (as-applied) heatset web offset lithographic printing shall meet one of the following requirements or equivalent level of control as determined in permit conditions:

(1) contain 1.6 percent alcohol or less, by weight, as applied, in the fountain solution:

(2) contain three percent alcohol or less, by weight, on-press (as-applied) in the fountain solution if the fountain solution is refrigerated to below 60 degrees Fahrenheit; or

(3) contain five percent alcohol substitute or less, by weight, on-press (as-applied) and no alcohol in the fountain solution.

(d) Volatile organic compounds content in the fountain solution for on-press (as-applied) sheet-fed lithographic printing shall meet one of the following requirements or equivalent level of control as determined in permit conditions:

(1) contain five percent alcohol or less, by weight, on-press (as-applied) in the fountain solution;

(2) contain 8.5 percent alcohol or less, by weight, on-press (as-applied) in the fountain solution if the fountain solution is refrigerated to below 60 degrees Fahrenheit; or

(3) contain five percent alcohol substitute or less, by weight, on-press (as-applied) and no alcohol in the fountain solution.

(e) Volatile organic compounds content in emissions from fountain solution from non-heatset web offset lithographic printing shall not exceed five percent alcohol substitute (by weight) on-press (as-applied) and contain no alcohol in the fountain solution.

(f) An owner or operator of an individual web offset lithographic printing press dryer or letterpress-printing heatset press subject to this Rule that emits 25 or more tons per year potential emissions of volatile organic compounds shall:

(1) use an enforceable limitation on potential emissions to keep individual heatset press below 25 tons per year potential to emit volatile organic compounds (petroleum ink oil) threshold, which can be achieved by using inks and coatings that contain less than 31.25 tons per year volatile organic compound (petroleum ink oil) where 20 percent retention factor of petroleum ink oil applies, or by using other methods established by permit conditions; or

(2) use an add-on control system that meets one of the following requirements:

(A) reduces volatile organic compounds emissions from each dryer by at least 90 percent volatile organic compounds emissions control efficiency established by procedures defined in Paragraph (h) of this Rule for a control device from heatset dryers whose first installation date was prior to July 1, 2010, at facilities with potential to emit 100 tons or more of volatile organic compounds per year;

(B) reduces volatile organic compounds emissions from each dryer by at least 90 percent volatile organic compounds emissions control efficiency established by procedures defined in Paragraph (h) of this Rule for a control device from heatset dryers whose first installation date was prior to May 1, 2013, at facilities with potential to emit less than 100 tons of volatile organic compounds per year;

(C) reduces volatile organic compounds emissions from each dryer by at least 95 percent volatile organic compounds emissions control efficiency established by procedures defined in Paragraph (h) of this Rule for a control device from heatset dryers whose first installation date was on or after July 1, 2010, at facilities with potential to emit 100 tons or more of volatile organic compounds per year;

(D) reduces volatile organic compounds emissions from each dryer by at least 95 percent volatile organic compounds emissions control efficiency established by procedures defined in Paragraph (h) of this Rule for a control device from heatset dryers whose first installation date was on or after May 1, 2013, at facilities with potential to emit less than 100 tons of volatile organic compounds per year; or

(E) maintains a maximum volatile organic compounds outlet concentration of 20 parts per million by volume (ppmv), as hexane (C_6H_{14}) on a dry basis.

(g) The control limits established in:

(1) Paragraphs (c), (d), and (e) of this Rule shall not be applied to any press with total fountain solution reservoir of less than one gallon;

(2) Paragraph (d) of this Rule shall not be applied to sheet-fed presses with maximum sheet size 11x 17 inches or smaller; and

(3) Subparagraph (f)(2) of this Rule shall not be applied to a heatset press used for book printing, or to a heatset press with maximum web width of 22 inches or less.

(h) If the owner or operator of a printing press is required by permit conditions to determine:

(1) the volatile organic compounds content, Method 24 of Appendix A to 40 CFR Part 60 or approved alternative methods pursuant to 15A NCAC 02D .2602(h) shall be used; and

(2) the control efficiency by measuring volatile organic compounds at the control device inlet and outlet, Methods 18, 25, or 25A of Appendix A to 40 CFR Part 60, or approved alternative methods pursuant to 15A NCAC 02D .2602(h) shall be used.

(i) All test methods defined in Paragraph (h) of this Rule shall be conducted at typical operating conditions and flow rates.

(j) The owner or operator of any facility subject to this Rule shall demonstrate compliance with RACT applicability requirements by calculating volatile organic compounds emissions and keep records of the basis of the calculations required by 15A NCAC 02D .0605 and .0903. Volatile organic compounds emissions from offset lithographic printing and letterpress printing shall be determined by permit condition requirements or by using the following retention and capture efficiency factors:

(1) the retention factors are:
  (A) 20 percent for heatset petroleum ink oils;
  (B) 100 percent for heatset vegetable ink oils;
  (C) 95 percent for sheet-fed and coldset web petroleum ink oils; and
  (D) 100 percent for sheet-fed and coldset web vegetable ink oils.

(2) the retention factor is 50 percent for low volatile organic compounds composite vapor pressure cleaning materials in shop towels where:
  (A) volatile organic compounds composite vapor pressure of the cleaning material is less than 10 mm Hg at 20ºC; and
  (B) cleaning materials and used shop towels are kept in closed containers.

(3) carryover (capture) factors of volatile organic compounds from automatic blanket wash and fountain solution to offset lithographic heatset dryers are:
  (A) 40 percent VOC carryover (capture) factor for automatic blanket washing when the volatile organic compounds composite vapor pressure of the cleaning material is less than 10mm Hg at 20°C.
  (B) 70 percent VOC carryover (capture) factor for alcohol substitutes in fountain solution.

(4) capture efficiency for volatile organic compounds (petroleum ink oils) from oil-based paste inks and oil-based paste varnishes (coatings) in heatset web offset lithographic presses and heatset web letterpress presses shall be demonstrated by showing that the dryer is operating at negative pressure relative to the surrounding pressroom. As long as the dryer is operated at negative pressure, the capture efficiency for VOC from the heatset lithographic inks and varnishes (coatings) formulated with low volatility ink oils is 100 percent of the VOC (ink oils) volatilized in the dryer. Capture efficiency test is not required in this situation.

(k) Except as specified in this Paragraph, all cleaning materials used for cleaning a press, press parts, or to remove dried ink from areas around the press shall meet one of the following requirements:

(1) the volatile organic compounds content shall be less than 70 percent by weight; or

(2) composite partial vapor pressure of volatile organic compounds shall be less than 10 mm Hg at 20 degrees Celsius.

No more than 110 gallons per year of cleaning materials that do not meet the requirements of Subparagraph (1) or (2) of this Paragraph shall be used during any 12 consecutive months.

(l) The owner or operator of any facility subject to this Rule shall maintain the following records for a minimum of five years:

(1) parametric monitoring for processes and control devices as determined and at the frequency specified in the permit or by Paragraph (f) of this Rule;

(2) the total amount of each individual or class of fountain solution and ink used monthly for the printing operations and the percentage of volatile organic compounds, alcohol, and alcohol substitute as applied in it;

(3) the total amount of each individual or class of cleaning solutions used monthly with vapor pressure and the percentage of volatile organic compounds as applied in it;

(4) the total amount of cleaning solutions used monthly with vapor pressure and the percentage of volatile organic compounds as applied that does not meet the vapor pressure or percentage of volatile organic compounds requirements of Paragraph (k) of this Rule;

(5) the temperature of fountain solutions for lithographic printing presses using alcohol at the frequency specified in the permit; and

(6) any other parameters required by the permit in accordance with 15A NCAC 02D .0605 and .0903.

(m) The owner or operator of any source subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. September 1, 2010;

Amended Eff. May 1, 2013;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0962 INDUSTRIAL CLEANING SOLVENTS

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Organic solvent" means a liquid hydrocarbon, such as methyl ethyl ketone or toluene, used to dissolve paints, varnishes, grease, oil, or other hydrocarbons.

(2) "Solvent cleaning" means the process of removing the excess penetrant from the surface or a part by wiping, flushing, or spraying with a solvent for the penetrant.

(3) "Wipe cleaning" means the method of cleaning that utilizes a material such as a rag wetted with a solvent, prior to a physical rubbing process to remove contaminants from surfaces.

(b) This Rule applies, with exemptions defined in Paragraphs (c) and (d) of this Rule, to sources whose volatile organic compound emissions exceed the threshold in 15A NCAC 02D .0902(b) from the following cleaning operations:

(1) spray gun cleaning;
(2) spray booth cleaning;
(3) large manufactured components cleaning;
(4) parts cleaning;
(5) equipment cleaning;
(6) line cleaning;
(7) floor cleaning;
(8) tank cleaning; and
(9) small manufactured components cleaning.

(c) Paragraph (e) of this Rule does not apply to any cleaning material used for cleaning operations covered by 15A NCAC 02D .0918, .0919, .0923, .0924, .0930, .0935, .0961, .0963, .0964, .0965, .0966, .0967, and .0968.

(d) Cleaning operations of portable or stationary mixing vats, high dispersion mills, grinding mills, tote tanks, and roller mills for manufacturing of coating, ink, or adhesive shall apply one or more of the following methods:

(1) use industrial cleaning solvents that either contain less than 1.67 pounds VOC per gallon or have an initial boiling point greater than 120 degrees Celsius, and where the initial boiling point exceeds the maximum operating temperature by at least 100 degrees Celsius. The industrial cleaning solvents shall be collected and stored in closed containers;

(2) implement the following work practices:

(A) maintain the equipment being cleaned as leak free;

(B) drain volatile organic compounds containing cleaning materials from the cleaned equipment upon completion of cleaning;

(C) store or dispose of volatile organic compounds containing cleaning materials, including waste solvent, in a manner that will prevent evaporation into atmosphere; and

(D) store all volatile organic containing cleaning materials in closed containers;

(3) collect and vent the emissions from equipment cleaning to an add-on control system as set forth in Paragraph (g) of this Rule; or

(4) use organic solvents other than listed in Subparagraph (d)(1) of this Rule if no more than 60 gallons of fresh solvent shall be used per month. Organic solvent reused or recycled either onsite or offsite for further use in equipment cleaning or the manufacture of coating, ink, or adhesive shall not be included in this limit.

(e) Any cleaning material of the cleaning operations listed in Paragraph (b) of this Rule shall have:

(1) volatile organic compounds content that does not exceed 0.42 pounds per gallon; or

(2) composite vapor limit of eight millimeters of mercury at 20 degrees Celsius.

(f) Method 24 of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of coating materials used in industrial cleaning solvents operations, unless the facility maintains records to document the volatile organic compounds content of coating materials from the manufacturer.

(g) Facilities that have chosen to use add-on control shall install control equipment with 85 percent overall efficiency.

(h) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. September 1, 2010;
Amended Eff. May 1, 2013;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0963 FIBERGLASS BOAT MANUFACTURING MATERIALS

(a) For the purpose of this Rule, the following definitions shall apply:

(1) "Closed molding" means any fabrication techniques in which pressure is used to distribute the resin through the reinforcing fabric placed between two mold surfaces to either saturate the fabric or fill the mold cavity.

(2) "Monomer" means a volatile organic compound that partly combines with itself, or other similar compounds, by a cross-linking reaction to become part of the cured resin.

(3) "Open molding" means the open mold that is first spray-coated with a clear or pigmented polyester resin known as a gel coat. The gel coat will become the outer surface of the finished part.

(b) This Rule applies to a facility that manufactures hulls or decks of boats and related parts, builds molds to make fiberglass boat hulls or decks and related parts from fiberglass, or makes polyester resin putties for assembling fiberglass parts; and whose volatile organic compounds emissions meet the threshold established in 15A NCAC 02D .0902(b) from sources for the following operations:

(1) open molding and gel coat operation, including pigmented gel coat, clear gel coat, production resin, tooling gel coat, and tooling resin;

(2) resins and gel coat mixing operations; and

(3) resins and gel coat application equipment cleaning operations.

(c) The following activities are exempted from the provisions of this Rule:

(1) surface coatings applied to fiberglass boats;

(2) surface coatings for fiberglass and metal recreational boats; and

(3) industrial adhesives used in the assembly of fiberglass boats.

(d) Volatile organic compounds content limits in resin and gel coat that are used for any molding operations listed in Paragraph (b) of this Rule and closed molding operations that do not meet the definition of monomer established in Subparagraph (a)(2) of this Rule, such as vacuum bagging operations, shall not exceed monomer volatile organic compounds limits established in Table 1:

Table 1. Organic Hazardous Air Pollutants Content Requirements for Open Molding Resin and Gel Coat Operations (40 CFR 63, Subpart VVVV)

Material	Application Method	Limit of Weighted-Average Monomer VOC Content (weight percent)
Production resin	Atomized (spray)	28
Production resin	Nonatomized	35
Pigmented gel coat	Any method	33
Clear gel coat	Any method	48
Tooling resin	Atomized	30
Tooling resin	Nonatomized	39
Tooling gel coat	Any method	40

The average monomer volatile organic compounds contents listed in the Table 1 shall be determined by using Equation 1 below:

$$\text{Weighted Average Monomer VOC Content} = \frac{\sum_{i=1}^{n}(M_i \cdot VOC_i)}{\sum_{i=1}^{n}(M_i)}$$

Where: M_i = mass of open molding resin or gel coat i used in the past 12 month in an operation in megagrams;

VOC_i = monomer volatile organic compounds content, by weight percent, of open molding resin or gel coat i used in the past 12 month in an operation;

n = number of different open molding resins or gel coats used in the past 12 months in an operation.

(e) The volatile organic compounds limits established in Paragraph (d) of this Rule are not applicable to:

(1) production resins, including skin coat resins, that meet specifications for use in military vessels or are approved by the U.S. Coast Guard for the use in the construction of lifeboats, rescue boats, and other lifesaving appliances approved under 46 CFR Subchapter Q, or the construction of small passenger vessels regulated by 46 CFR Subchapter T. Production resins that meet these criteria shall be applied with non-atomizing resin application equipment;

(2) production and tooling resins; and pigmented, clear, and tooling gel coat used for part or mold repair and touch up. Total resin and gel coat materials that meet these criteria shall not exceed one

percent by weight of all resin and gel coat used at a facility on a 12-month rolling-average basis; or

(3) pure, 100-percent vinyl ester resin used for skin coats that are applied with non-atomizing resin application equipment and with the total amount of the resin materials not exceeding five percent by weight of all resin used at a factory on 12-month rolling-average basis.

(f) Any molding resin and gel coat operations listed in Paragraph (b) of this Rule that a facility chooses to include into average emissions among different operations to meet numerical monomer volatile organic compounds emission rate limits rather than to comply with the emission limits established in Paragraph (d) of this Rule shall use the following equations:

(1) to estimate a facility-specific monomer volatile organic compounds mass emission limit (12-month rolling average) use Equation 2 below:

$$\text{Monomer VOC Limit} = 46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})$$

Where:

Monomer VOC Limit = total allowable monomer volatile organic compounds that can be emitted from the open molding operations included in the average, in kilograms per 12-month period.

M_R = mass of production resin in megagrams used in the past 12 months, excluding any materials that are exempt;

M_{PG} = mass of pigmented gel coat in megagrams used in the past 12 months, excluding any materials that are exempt;

M_{CG} = mass of clear gel coat in megagrams used in the past 12 months, excluding any materials that are exempt;

M_{TR}= mass of tooling resin coat in megagrams used in the past 12 months, excluding any materials that are exempt;

M_{TG} = mass of tooling gel coat in megagrams used in the past 12 months, excluding any materials that are exempt.

Estimates of average emissions shall be determined on a 12-month rolling average basis at the end of every month. The numerical coefficients associated with each term on the right hand side of Equation 2 are the allowable monomer volatile organic compounds emission rate for that particular material in units of kilograms of VOC per megagrams of material used.

(2) to determine if the monomer volatile organic compounds emissions from the operations included in the average do not exceed the emission limit calculated using Equation 2 from Subparagraph (f)(1) of this Rule for the same 12-month period use Equation 3 below:

$$\text{Monomer VOC emissions} = (PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})$$

Where:

Monomer VOC emissions = monomer volatile organic compounds emissions calculated using the monomer volatile organic compounds emission equation for each operation included in the average in kilograms;

PV_R = weighted-average monomer volatile organic compounds emission rate in kilograms per megagram for production resin used in the past 12 months;

M_R = Mass of production resin in megagrams used in the past 12 months;

PV_{PG} = weighted-average monomer volatile organic compounds emission rate in kilograms per megagram for pigmented gel coat used in the past 12 months;

M_{PG} = mass of pigmented gel coat in megagrams used in the past 12 months;

PV_{CG} = weighted-average monomer volatile organic compounds emission rate in kilograms per megagram for clear gel coat used in the past 12 months;

M_{CG} = Mass of clear gel coat in megagrams used in the past 12 months;

PV_{TR} = Weighted-average monomer volatile organic compounds emission rate in kilograms per megagram for tooling resin used in the past 12 months;

M_{TR} = Mass of tooling resin in megagrams used in the past 12 months;

PV_{TG} = Weighted-average monomer volatile organic compounds emission rate in kilograms per megagram for tooling gel coat used in the past 12 months;

M_{TG} = Mass of tooling gel coat in megagrams used in the past 12 months.

This demonstration shall be conducted at the end of the first 12-month averaging period and at the end of every subsequent month for only those operations that are included in the average.

(3) to compute the weighted-average monomer volatile organic compounds emission rate for the previous 12 months for each open molding resin and gel coat operation use Equation 4 below:

$$PV_{OP} = \frac{\sum_{i=1}^{n}(M_i \cdot PV_i)}{\sum_{i=1}^{n} M_i}$$

Where:

PV_{OP} = weighted-average monomer volatile organic compounds emission rate in kilograms of monomer volatile organic compounds per megagram of material applied for each open molding operation (PV_R, PV_{PG}, PV_{CG}, PV_{TR}, and PV_{TG}) included in the average;

M_i = mass or resin or gel coat i in megagrams used within an operation in the past 12 months;

n = number of different open molding resins and gel coats used within an operation in the past 12 months;

PV_i = the monomer volatile organic compounds emission rate for resin or gel coat i in kilograms of monomer volatile organic compounds per megagram of material applied used within an operation in the past 12 months. Equations in Table 2 shall be used to compute PV. The calculated averages from Equation 4 shall be used as the weighted-average values in Equation 3 in Subparagraph (f)(2) of this Rule.

Table 2. Compliant Materials Monomer Volatile Organic Compounds Content for Open Molding Resin and Gel Coat

For this material	and this application method	Use this formula to calculate the monomer VOC emission rate
1. Production resin, tooling resin	a. Atomized	$0.014 \times (\text{Resin VOC\%})^{2.425}$
	b. Atomized, plus vacuum bagging with roll-out	$0.01185 \times (\text{Resin VOC\%})^{2.425}$
	c. Atomized, plus vacuum bagging without roll-out	$0.00945 \times (\text{Resin VOC\%})^{2.425}$
	d. Nonatomized	$0.014 \times (\text{Resin VOC\%})^{2.275}$
	e. Nonatomized, plus vacuum bagging with roll-out	$0.0110 \times (\text{Resin VOC\%})^{2.275}$
	f. Nonatomized, plus vacuum bagging without roll-out	$0.0076 \times (\text{Resin VOC\%})^{2.275}$
2. Pigmented gel coat, clear gel coat, tooling gel coat	All methods	$0.445 \times (\text{Gel coat VOC\%})^{1.675}$

(g) If the owner or operator of any facility with molding resin and gel coat operations listed in Paragraph (b) of this Rule chooses to use higher-monomer volatile organic compound materials rather than to comply with the emission limits established in Paragraph (d) of this Rule, they shall:

(1) install control equipment to meet the emission limit determined by Equation 2 in Subparagraph (f)(1) of this Rule, by applying the mass of each material used during the control device performance test in Equation 2 to determine the emission limit, in kilogram of monomer VOC, that is applicable during the test, instead of using the mass of each material as established in Subparagraph (f)(1) of this Rule;

(2) monitor and record relevant control device and capture system operating parameters during the control device performance test to use the recorded values to establish operating limits for those parameters; and

(3) monitor the operating parameters for the control device and emissions capture system and maintain the parameters within the established limits.

(h) Any molding resin and gel coat operations that use a filled production resin or filled tooling resin shall calculate the emission rate for the filled production resin or filled tooling resin on as-applied basis using Equation 5. If the filled resin:

(1) is used as a production resin then the value of PV_F calculated by Equation 5 shall not exceed 46 kilograms of monomer VOC per megagram of filled resin applied;

(2) is used as a tooling resin then the value of PV_F calculated by Equation 5 shall not exceed 54 kilograms of monomer VOC per megagram of filled resin applied; and

(3) is included in the emissions averaging procedure then the facility shall use the value of PV_F calculated by Equation 5 below for the value PV_i in Equation 4 in Subparagraph (f)(3) of this Rule.

$$PV_F = \frac{PV_U * (100 - \%Filler)}{100}$$

Where:

PV_F = The as-applied monomer volatile organic compounds emission rate in kilograms monomer VOC per megagram of filled material for the filled production resin or tooling resin;

PV_U = The monomer volatile organic compounds emission rate for the neat (unfilled) resin before filler is added, as calculated using the formulas in Table 2 of Subparagraph (f)(3) of this Rule.

%Filler = The weight-percent of filler in the as-applied filled resin system.

(i) All resins and gel coats included in volatile organic compounds limits described in Paragraphs (d) through (h) of this Rule shall meet the non-monomer volatile organic compounds content limit of five percent.

(j) If the non-monomer volatile organic compounds content of a resin or gel coat exceeds five percent, then the excess non-monomer volatile organic compounds over the five percent shall be counted toward the monomer volatile organic compounds content.

(k) SCAQMD Method 312-91, Determination of Percent Monomer in Polyester Resins, revised April 1996 shall be used to determine the monomer volatile organic compounds content of resin and gel coat materials unless the facility maintains records to document the volatile organic compounds content of resin and gel coat materials from the manufacturer. This test method was developed by the South Coast Air Quality Management District and is incorporated by reference, excluding subsequent amendments or editions, and may be obtained free of charge online at http://www.aqmd.gov/docs/default-source/laboratory-procedures/methods-procedures/312-91.pdf.

(l) All resin and gel coat mixing containers with a capacity equal to or greater than 55 gallons, including those used for on-site mixing of putties and polyputties, shall have a cover with no visible gaps in place at all times except for the following operations:

(1) when material is being manually added to or removed from a container; or

(2) when mixing or pumping equipment is being placed or removed from a container.

(m) Volatile organic compounds cleaning solvents for routine application equipment cleaning shall contain no more than five percent volatile organic compounds by weight, or have a composite vapor pressure of no more than 0.50 mm Hg at 68 degrees Fahrenheit.

(n) Only non-volatile organic compounds solvents shall be used to remove cured resin and gel coat from application equipment.

(o) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. September 1, 2010;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0964 MISCELLANEOUS INDUSTRIAL ADHESIVES

(a) For the purpose of this Rule, the following definitions apply:

(1) "Air-assisted airless spray" means a system that consists of an airless spray gun with a compressed air jet at the gun tip to atomize the adhesive.

(2) "Airless spray" means the application of an adhesive through an atomizing nozzle at high pressure of 1,000 to 6,000 pounds per square inch by a pump forces.

(3) "Application process" means a process that consists of a series of one or more adhesive applicators and any associated drying area or oven where an adhesive is applied, dried, and cured.

(4) "Dip coating" means application where substrates are dipped into a tank containing the adhesive. The substrates are then withdrawn from the tank and any excess adhesive is allowed to drain.

(5) "Electrocoating" means a specialized form of dip coating where opposite electric charges are applied to the waterborne adhesive and the substrate.

(6) "Electrostatic spray" means application where the adhesive and substrate are oppositely charged.

(7) "Flow coating" means conveying the substrate over an enclosed sink where the adhesive is applied at low pressure as the item passes under a series of nozzles.

(8) "HVLP" means a system with specialized nozzles that provide better air and fluid flow than conventional air atomized spray systems at low air pressure, shape spray pattern, and guide high volumes of atomized adhesive particles to the substrate using lower air pressure of 10 pounds per square inch or less at the spray cap.

(9) "Miscellaneous industrial adhesives" means adhesives, including adhesive primers used in conjunction with certain types of adhesives used at industrial manufacturing and repair facilities for a wide variety of products and equipment that operate adhesives application processes.

(10) "Roll coating," "brush coating," and "hand application" means application of high viscosity adhesives onto small surface area.

(b) Control of volatile organic compounds emissions from miscellaneous industrial adhesives product categories covered by 15A NCAC 02D .0923, .0935, .0961, .0962, .0963, .0965, .0966, .0967, and .0968 are exempted from the requirements of this Rule.

(c) This Rule applies to miscellaneous industrial adhesive application sources whose volatile organic compounds emissions meet the threshold established in 15A NCAC 02D .0902(b).

(d) With the exception established in Paragraph (b) of this Rule, all volatile organic compounds containing materials applied by each miscellaneous industrial adhesive application processes before control shall:

(1) not exceed limits established in Table 1 of this Rule; and

(2) be used in one of the following application methods in conjunction with using low volatile organic compounds adhesives or adhesive primers:

(A) electrostatic spray;

(B) HVLP spray;

(C) flow coat;

(D) roll coat or hand application, including non-spray application methods similar to hand or mechanically powered caulking gun, brush, or direct hand application;

(E) dip coat including electrodesposition;

(F) airless spray;

(G) air-assisted airless spray; or

(H) any other adhesive application method capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying.

(e) Emission limits established in Subparagraph (d)(1) of this Rule shall be:

(1) met by averaging the volatile organic compounds content of materials used on a single application unit for each day; and

(2) calculated as mass of volatile organic compounds per volume of adhesive primer, excluding water and exempt compounds, as applied.

(f) If an adhesive is used to bond dissimilar substrates together in general adhesive application process as set forth in Table 1, then the applicable substrate category with the highest volatile organic compounds emission limit shall be established as the limit for such application.

Table 1. Volatile Organic Compounds Emission Limits for General and Specialty Adhesive Application Process.

General Adhesive Application Processes	VOC Emission Limit (lb/gal)

Reinforced Plastic Composite	1.7
Flexible vinyl	2.1
Metal	0.3
Porous Material (Except Wood)	1
Rubber	2.1
Wood	0.3
Other Substrates	2.1

Specialty Adhesive Application Processes	VOC Emission Limit (lb/gal)
Ceramic Tile Installation	1.1
Contact Adhesive	2.1
Cove Base Installation	1.3
Floor Covering Installation (Indoor)	1.3
Floor Covering Installation (Outdoor)	2.1
Floor Covering Installation (Perimeter Bonded Sheet Vinyl)	5.5
Metal to Urethane/Rubber Molding or Casting	7.1
Motor Vehicle Adhesive	2.1
Motor Vehicle Weatherstrip Adhesive	6.3
Multipurpose Construction	1.7
Plastic Solvent Welding (ABS)	3.3
Plastic Solvent Welding (Except ABS)	4.2
Sheet Rubber Lining Installation	7.1
Single-Ply Roof Membrane Installation/Repair (Except EPDM)	2.1
Structural Glazing	0.8
Thin Metal Laminating	6.5
Tire Repair	0.8
Waterproof Resorcinol Glue	1.4
Adhesive Primer Application Processes	VOC Emission Limit1 (lb/gal)
Motor Vehicle Glass Bonding Primer	7.5
Plastic Solvent Welding Adhesive Primer	5.4
Single-Ply Roof Membrane Adhesive Primer	2.1
Other Adhesive Primer	2.1

(g) Any miscellaneous industrial adhesive application processes subject to this Rule, which chooses to use add-on control for adhesive application processes rather than to comply with the emission limits established in Paragraph (d) of this Rule, shall install control equipment with overall control efficiency of 85 percent or use a combination of adhesives and add-on control equipment on an application process to meet limits established in Paragraph (d) of this Rule.

(h) EPA Method 24 or 25A of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of adhesives, other than reactive adhesives, and the procedure established in Appendix A of the NESHAP for surface coating of plastic parts (40 CFR Part 63, Subpart PPPP) shall be used to determine the volatile organic compounds content of reactive adhesives unless the facility maintains records to document the volatile organic compounds content of adhesives from the manufacturer.

(i) The owner or operator of any facility subject to this Rule shall comply with the 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. September 1, 2010;

Readopted Eff. November 1, 2020.

15A NCAC 02D .0965 FLEXIBLE PACKAGE PRINTING

(a) For the purpose of this Rule, the following definitions apply:

(1) "First installation date" means the actual date when the equipment or control device becomes operational. This date does not change if the equipment or control device is later moved to a new location.

(2) "Flexible Packaging" means any package or part of a package whose shape can be readily changed.

(3) "Flexographic printing" means a printing process in which an image is raised above the printing plate, and the image carrier is made of rubber or other elastomeric materials.

(4) "Rotogravure press" means an unwind or feed section, which may include:

(A) more than one unwind or feed station, such as on a laminator;

(B) a series of individual work stations, one or more of which is a rotogravure print station;

(C) any dryers associated with the work stations; and

(D) a rewind, stack, or collection section.

(5) "Rotogravure printing" means a printing process in which an image type and art is etched or engraved below the surface of a plate or cylinder.

(b) This Rule applies to flexible packaging printing press sources whose emissions of volatile organic compounds meet the threshold established in 15A NCAC 02D .0902(b).

(c) The volatile organic compounds content of materials used on any single flexible packaging printing press subject to this Rule shall not exceed 0.8 pounds volatile organic compounds per one pound of solids applied, or 0.16 pounds volatile organic compounds per one pound of materials applied limits. These volatile organic compounds content limits are consistent with 80 percent overall emissions reduction level and reflect similar control levels as the capture and control option.

(d) Any flexible packaging printing press that has chosen to use add-on control for coating operations rather than comply with the emission limits established in Paragraph (c) of this Rule shall install control equipment with:

(1) 65 percent overall control based on a capture efficiency of 75 percent and a control device efficiency of 90 percent for a press that was first installed prior to March 14, 1995 and that is controlled by an add-on control device whose first installation date was prior to July 1. 2010;

(2) 70 percent overall control based on a capture efficiency of 75 percent and a control device efficiency of 95 percent for a press that was first installed prior to March 14, 1995 and that is controlled by an add-on control device whose first installation date was on or after July 1, 2010;

(3) 75 percent overall control based on a capture efficiency of 85 percent and a control device efficiency of 95 percent for a press that was first installed on or after March 14, 1995 and that is controlled by an add-on control device whose first installation date was prior July 1, 2010; and

(4) 80 percent overall control based on a capture efficiency of 85 percent and a control device efficiency of 95 percent for a press that was first installed on or after March 14, 1995 and that is controlled by an add-on control device whose first installation date was on or after July 1, 2010.

(e) EPA Method 24 or 25A of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of coating materials used at flexible package printing facilities, unless the facility maintains records to document the volatile organic compounds content of coating materials from the manufacturer.

(f) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. September 1, 2010;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0966 PAPER, FILM AND FOIL COATINGS

(a) For the purpose of this Rule, the following definitions apply:

(1) "Paper, film, and foil coating line" means a series of coating applicators, flash-off areas, and any associated curing/drying equipment between one or more unwind/feed stations and one or more rewind/cutting stations.

(2) "Flexographic coating" means that the area to be coated is delineated by a raised surface on a flexible plate.

(3) "Rotary screen or flat screen coating" means the application of a coating material to a substrate by means of masking the surface and applying a color or finish using a screen either in flat form or rotary form.

(4) "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.

(b) This Rule applies to paper, film and foil surface coating operations sources, including related cleaning activity, whose emissions of volatile organic compounds meet the threshold established in 15A NCAC 02D .0902(b), at a facility that applies:

(1) paper, film, or foil surfaces in the manufacturing of products for pressure sensitive tape and labels, including fabric coated for use in pressure sensitive tapes and labels; photographic film; industrial and decorative laminates; abrasive products, including fabric coated for use in abrasive products; and flexible packaging, including coating of non-woven polymer substrates for use in flexible packaging; and

(2) coatings during coating applications for production of corrugated and solid fiber boxes; die-cut paper paperboard and cardboard; converted paper and paperboard not elsewhere classified; folding paperboard boxes, including sanitary boxes; manifold business forms and related products; plastic aseptic packaging; and carbon paper and inked ribbons.

(c) The following types of coatings are not covered by this Rule:

(1) coatings performed on or in-line with any offset lithographic, screen, letterpress, flexographic, rotogravure, or digital printing press; or

(2) size presses and on-machine coaters that function as part of an in-line papermaking system.

(d) Emissions of volatile organic compounds from:

(1) pressure sensitive tape and label surface coating lines with the potential to emit, prior to controls, less than 25 tons per year of volatile organic compounds from coatings shall not exceed 0.20 pounds volatile organic compounds per pound of solids applied (0.067 pounds volatile organic compounds per pound of coating applied); and

(2) paper, film, and foil surface coating lines with the potential to emit, prior to controls, less than 25 tons per year of volatile organic compounds from coatings shall not exceed 0.40 pounds of volatile organic compounds per pound of solids (0.08 pounds volatile organic compounds per pound of coating applied).

Compliance shall be determined pursuant to 15A NCAC 02D .0912(c).

(e) EPA Method 24 or 25A of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of coating materials used at paper, film, and foil coatings facilities, unless the facility maintains records to document the volatile organic compounds content of coating materials from the manufacturer.

(f) Any individual paper, film, and foil coating line with the potential to emit, prior to controls, at least 25 tons per year of volatile organic compounds from coatings shall apply control with overall volatile organic compounds efficiency of 90 percent rather than the emission limits established in Paragraph (d) of this Rule or use a combination of coating and add-on control equipment on a coating unit to meet limits that are equivalent to 90 percent overall control efficiency.

(g) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. September 1, 2010;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0967 MISCELLANEOUS METAL AND PLASTIC PARTS COATINGS

(a) For the purpose of this Rule, the following definitions apply:

(1) "Air dried coating" means a coating that is cured at a temperature below 90 degrees Celsius (194 degrees Fahrenheit).

(2) "Baked coating" means a coating that is cured at a temperature at or above 90 degrees Celsius (194 degrees Fahrenheit).

(3) "Clear coat" means a colorless coating that contains binders, but no pigment, and is formulated to form a transparent film.

(4) "Coating unit" means a series of one or more coating applicators and any associated drying area and oven where a coating is applied, dried, and cured.

(5) "Drum" means any cylindrical metal shipping container with a capacity greater than 12 gallons but less than 110 gallons.

(6) "Electric dissipating coating" means a coating that rapidly dissipates a high voltage electric charge.

(7) "Electric-insulating varnish" means a nonconvertible type coating applied to electric motors, components of electric motors, or power transformers, to provide electrical, mechanical, and environmental protection or resistance.

(8) "Etching filler" means a coating that contains less than 23 percent solids by weight and at least 1/2-percent acid by weight, and is used instead of applying a pretreatment coating followed by a primer.

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

(10) "Extreme-performance coating" means a coating used on a metal or plastic surface where the coated surface is, in its intended use, subject to the following:

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

(B) Repeated exposure to temperatures in excess of 250 degrees Fahrenheit; or

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

Extreme performance coatings include coatings applied to locomotives, railroad cars, farm machinery, and heavy duty trucks.

(11) "High-performance architectural coating" means a coating used to protect architectural subsections that 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 AAMA 2605-05: Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels. These performance requirements and test procedures are incorporated by reference, including subsequent amendments and editions. A copy of AAMA 2604-05 may be obtained free of charge at http://www.starrail.com/wp-content/docs/AAMA2604-05.pdf. A copy of AAMA 2605-05 may be obtained free of charge at http://www.starrail.com/wp-content/docs/AAMA2605-05.pdf.

(12) "Miscellaneous metal product and plastic parts surface coatings" means the coatings that are applied to the surfaces of a varied range of metal and plastic parts and products that are constructed either entirely or partially from metal or plastic. These miscellaneous metal products and plastic parts include metal and plastic components of the following types of products, as well as the products themselves: 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, pleasure craft (recreational boats), extruded aluminum structural components, railroad cars, heavy duty trucks, lawn and garden equipment, business machines, laboratory and medical equipment, electronic equipment, steel drums, metal pipes, and other industrial and household products.

(13) "Multi-component coating" means a coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to form a dry film.

(14) "One-component coating" means a coating that is ready for application as it comes out of its container to form a dry film. A thinner, necessary to reduce the viscosity, shall not be considered a component.

(b) This Rule applies to miscellaneous metal and plastic parts surface coating units whose volatile organic compounds emissions meet the threshold established in 15A NCAC 02D .0902(b) for coating and related cleaning activities of the following types of products:

(1) fabricated metal products, molded plastic parts, small and large farm machinery, commercial and industrial machinery and equipment;
(2) automotive or transportation equipment, interior or exterior automotive parts, construction equipment, motor vehicle accessories, bicycles and sporting goods;
(3) toys, recreational vehicles, pleasure craft (recreational boats), extruded aluminum structural components, railroad cars, heavy duty trucks, lawn and garden equipment;
(4) business machines, laboratory and medical equipment; and
(5) electronic equipment, steel drums metal pipes, and other industrial and household products.

(c) This Rule does not apply to:

(1) coatings that are applied to test panels and coupons as part of research and development, quality control;
(2) performance testing activities at paint research or manufacturing facility; or
(3) sources covered by 15A NCAC 02D .0922, .0923, .0935, .0961, .0962, .0963, .0964, .0965, .0966, and .0968.

(d) With the exception stated in Paragraph (c) of this Rule, emissions of volatile organic compounds before control for surface coating of:

(1) Metal parts and products shall not exceed limits as established in Table 1;

Table 1. Metal Parts and Products Volatile Organic Compounds Content Limits

Coating Category	Air Dried lb VOC/gal coating	Baked lb VOC/gal coating
General One Component; General Multi Component; Military Specification	2.8	2.3
Camouflage; Electric-Insulating Varnish; Etching Filler; High Temperature; Metallic; Mold-Seal; Pan Backing; Pretreatment Coatings; Drum Coating, New, Interior; Drum Coating, Reconditioned, Exterior; Silicone Release; Vacuum-Metalizing	3.5	3.5
Extreme High-Gloss; Extreme Performance; Heat-Resistant; Repair and Touch Up; Solar-Absorbent	3.5	3.0
High Performance Architectural	6.2	6.2
Prefabricated Architectural Multi-Component; Prefabricated Architectural One-Component	3.5	2.3
Drum Coating, New, Exterior	2.8	2.8
Drum Coating, Reconditioned, Interior	4.2	4.2

(2) Plastic parts and products shall not exceed limits as established in Table 2;

Table 2. Plastic Parts and Products Volatile Organic Compounds Content Limits

Coating Category	lbs VOC/gal coating
General One Component	2.3
General Multi Component; Metallic	3.5
Electric Dissipating Coatings and Shock-Free Coatings; Optical Coatings; Vacuum-Metalizing	6.7
Extreme Performance	3.5 (2-pack coatings)
Military Specification	2.8 (1 pack) 3.5 (2 pack)
Mold-Seal	6.3

Multi-colored Coatings	5.7

(3) automotive/transportation and business machine plastic parts shall not exceed limits as established in Table 3;

Table 3. Automotive/Transportation and Business Machine Plastic Parts Volatile Organic Compounds Content Limits

Coating Category	lbs VOC/gal coating
Automotive/Transportation Coatings	
I. High Bake Coatings – Interior and Exterior Parts	
Non-flexible Primer	3.5
Base Coats; Non-basecoat/clear coat; Flexible Primer	4.3
Clear Coat	4.0
II. Low Bake/Air Dried Coatings – Exterior Parts	
Primers; Basecoat; Non-basecoat/clearcoat	4.8
Clearcoats	4.5
III. Low Bake/Air Dried Coatings – Interior Parts	5.0
IV. Touchup and Repair Coatings	5.2
Business Machine Coatings	
Primers; Topcoat Texture Coat; Touchup and repair	2.9
Fog Coat	2.2

(4) pleasure craft shall not exceed limits as established in Table 4;

Table 4. Pleasure Craft Surface Coating Volatile Organic Compounds Content Limits

Coating Category	lbs VOC/gal coating
Extreme High Gloss Topcoat	4.1
High Gloss Topcoat Finish; Primer/Surfacer; All other pleasure craft surface coatings for metal or plastic	3.5
Pretreatment Wash Primers	6.5
High Build Primer Surfacer; Other Substrate Antifoulant Coating	2.8
Aluminum Substrate Antifoulant Coating	4.7

(5) motor vehicle materials shall not exceed limits as established in Table 5.

Table 5. Motor Vehicle Materials Volatile Organic Compounds Content Limits

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

(e) With the exception of motor vehicle materials coatings, any miscellaneous metal and plastic parts coatings operations facility may choose a combination of low volatile organic compounds coatings and add-on control equipment on a coating unit. Emissions of volatile organic compounds before control with such combination shall not exceed limits for surface coating of:

(1) Metal parts and products as established in Table 6;

Table 6. Metal Parts and Products Volatile Organic Compounds Content Limits

Coating Category	Air Dried	Baked
	lb VOC/gal solids	lb VOC/gal solids
General One Component; General Multi Component; Military	4.52	3.35

Specification		
Etching Filler; High Temperature; Metallic; Mold-Seal; Pan Backing; Pretreatment Coatings; Silicone Release; Drum Coating, New, Interior; Drum Coating, Reconditioned, Exterior; Vacuum-Metalizing	6.67	6.67
Extreme High-Gloss; Extreme Performance; Heat-Resistant; Solar-Absorbent	6.67	5.06
High Performance Architectural	38.0	38.0
Prefabricated Architectural Multi-Component	6.67	3.35
Prefabricated Architectural One-Component	6.67	3.35
Solar-Absorbent	6.67	5.06
Drum Coating, New, Exterior	4.52	4.52
Drum Coating, Reconditioned, Interior	6.67	9.78

(2) plastic parts and products as established in Table 7;

Table 7. Plastic Parts and Products Volatile Organic Compounds Content Limits

Coating Category	lbs VOC/gal solids
General One Component	3.35
General Multi Component; Metallic	6.67
Electric Dissipating Coatings and Shock-Free Coatings Optical Coatings; Vacuum-Metalizing	74.7
Extreme Performance	6.67 (2-pack)
Military Specification	4.52 (1 pack) 6.67 (2 pack)
Mold-Seal	43.7
Multi-colored Coatings	25.3

(3) automotive/transportation and business machine plastic parts as established in Table 8;

Table 8. Automotive/Transportation and Business Machine Plastic Parts Volatile Organic Compounds Content Limits

Coating Category	lbs VOC/gal solids
Automotive/Transportation Coatings	
I. High Bake Coatings – Interior and Exterior Parts	
Flexible Primer	11.58
Non-flexible Primer; Non-basecoat/clear coat	6.67
Base Coats	10.34
Clear Coat	8.76
II. Low Bake/Air Dried Coatings – Exterior Parts	
Primers	13.8
Basecoat; Non-basecoat/clearcoat	15.59
Clearcoats:	11.58
III. Low Bake/Air Dried Coatings – Interior Parts	15.59
IV. Touchup and Repair Coatings	17.72
Business Machine Coatings	
Primers; Topcoat; Texture Coat; Touchup and repair	4.8
Fog Coat	3.14

(4) pleasure craft surface coatings as established in Table 9.

Table 9. Pleasure Craft surface Coatings Volatile Organic Compounds Content Limits

Coating Category	lbs VOC/gal solids
Extreme High Gloss Topcoat	9.2
High Gloss Topcoat; Finish Primer/Surfacer; All other pleasure craft surface coatings for metal or plastic	6.7
Pretreatment Wash Primers	55.6
Aluminum Substrate Antifoulant Coating	12.8
High Build Primer Surfacer; Other Substrate Antifoulant Coating	4.4

(f) EPA Method 24 or 25A of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of coating materials used at miscellaneous metal and plastic part coating facilities, unless the facility maintains records to document the volatile organic compounds content of coating materials from the manufacturer.
(g) With the exception of motor vehicle materials coatings, any miscellaneous metal and plastic parts coatings operations facility may choose to use add-on control equipment with an overall control efficiency of 90 percent in lieu of using low-VOC coatings and specified application methods.
(h) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and 0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. September 1, 2010;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0968 AUTOMOBILE AND LIGHT DUTY TRUCK ASSEMBLY COATINGS

(a) For the purpose of this Rule, the following definitions apply:

(1) "Automobile" means a motor vehicle designed to carry up to eight passengers, excluding vans, sport utility vehicles, and motor vehicles designed primarily to transport light loads of property.

(2) "Automobile Topcoat Protocol" means Protocol For Determining The Daily Volatile Organic Compound Emission Rate Of Automobile and Light-duty Truck Topcoat Operations (EPA-453/R-08-002) or 40 CFR Part 60, Subpart MM, Standards of Performance for Automobile and Light-Duty Truck Surface Coating Operations. The protocol document can be obtained free of charge at https://www3.epa.gov/airquality/ctg_act/200809_voc_epa453_r-08-002_auto_ldtruck_vocemisrate_protocol.pdf.

(3) "Electrodeposition" means a process of applying a protective, corrosion-resistant waterborne primer on exterior and interior surfaces that provides coverage of recessed areas. It is a dip coating method that uses an electrical field to apply or deposit the conductive coating onto the part. The object being painted acts as an electrode that is oppositely charged from the particles of paint in the dip tank.

(4) "Final repair" means the operations performed and coating(s) applied to completely assembled motor vehicles or to parts that are not yet on a completely assembled vehicle to correct damage or imperfections in the coating.

(5) "Light-duty truck" means vans, sport utility vehicles, and motor vehicles designed primarily to transport light loads of property with a gross vehicle weight rating of 8,500 pounds or less.

(6) "Primer-surfacer" means an intermediate protective coating applied over the electrodeposition primer (EDP) and under the topcoat. Primer-surfacer provides adhesion, protection, and appearance properties to the total finish.

(7) "Solids turnover ratio (R_T)" means the ratio of total volume of coating solids that is added to the EDP system in a calendar month divided by the total volume design capacity of the EDP system.

(b) This Rule applies to automobile and light-duty truck assembly coating operations and related cleaning activities whose emissions of volatile organic compounds meet the threshold established in 15A NCAC 02D .0902(b) at:

(1) automobile or light-duty assembly plants during the vehicle assembly processes with the following primary coating product applications:

(A) new automobile or new light-duty truck bodies, or body parts for new automobiles or new light-duty trucks;

(B) other parts that are coated along with these bodies or body parts; or

(C) additional coatings that include glass bonding primer, adhesives, cavity wax, sealer, deadener, gasket/gasket sealing material, underbody coating, trunk interior coating, bedliner, weatherstrip adhesive, and lubricating waxes/compounds; and

(2) facilities that perform coating operations on a contractual basis other than plastic or composites molding facilities.

(c) This Rule does not apply to:

(1) aerosol coatings of automobile and light-truck assembly coatings;

(2) coatings that are applied to other parts intended for use in new automobiles or new light-duty trucks, such as application of spray primer, color and clear coat to fascia or bumpers, on coating lines that are not related to the vehicle assembly process at automobile or light-duty assembly plants. Those coatings are regulated by 15A NCAC 02D .0964 and .0967; and

(3) aftermarket repair or replacement parts for automobiles or light-duty trucks that are regulated by 15A NCAC 02D .0964 and .0967.

(d) With the exception of materials supplied in containers with a net volume of 16 ounces or less, or a net weight of one pound or less, emissions of volatile organic compounds before control for:

(1) automobile and light-duty truck assembly coatings shall not exceed limits established in Table 1.

Table 1. Volatile Organic Compounds emission limits for automobile and light-duty truck assembly coatings.

Assembly Coating Process	Volatile Organic Compounds Emission Limit		
Electrodeposition primer (EDP) operations, including application area, spray/rinse stations, and curing oven	When solids turnover ratio $R_T \geq 0.160$;	When $0.040 \leq R_T < 0.160$	When $R_T < 0.040$;
	0.7 lb/gal coatings solids	$0.084^{0.160-R_T}$ x 8.34 lb/gal coating solids	No VOC emission limit.

	applied.	applied.	
Primer-surfacer operations, including application area, flash-off area, and oven	12.0 lb VOC/gal deposited solids on a daily weighted average basis as determined by following the procedures in the Automobile Topcoat Protocol		
Topcoat operations, including application area, flash-off area, and oven	12.0 lb VOC/gal deposited solids on a daily weighted average basis as determined by following the procedures in the Automobile Topcoat Protocol		
Final repair operations	4.8 lb VOC/gallon of coating less water and less exempt solvents on a daily weighted average basis or as an occurrence weighted average.		
Combined primer-surfacer and topcoat operations	12.0 lb VOC/gal deposited solids on a daily weighted average basis as determined by following the procedures in the Automobile Topcoat Protocol		

(2) materials used at automobile and light-duty truck assembly coatings facilities shall not exceed limits established in Table 2.

Table 2. Volatile Organic Compounds emission limits for miscellaneous materials used at automobile and light-duty truck assembly coatings facilities.

Material	VOC Emission Limit (grams of VOC per liter of coating excluding water and exempt compounds, as applied)
Automobile and light-duty truck glass bonding primer	900
Automobile and light-duty truck adhesive	250
Automobile and light-duty truck cavity wax	650
Automobile and light-duty truck sealer	650
Automobile and light-duty truck deadener	650
Automobile and light-duty truck gasket/gasket sealing material	200
Automobile and light-duty truck underbody coating	650
Automobile and light-duty truck trunk interior coating	650
Automobile and light-duty truck bedliner	200
Automobile and light-duty truck weatherstrip adhesive	750
Automobile and light-duty truck lubricating wax/compound	700

(e) EPA Method 24 or 25A of Appendix A to 40 CFR Part 60 shall be used to determine the volatile organic compounds content of coatings, other than reactive adhesives used at automobile and light-duty truck coating facilities, unless the facility maintains records to document the volatile organic compounds content of coating materials from the manufacturer.
(f) The emission limits established in Paragraph (d) of this Rule may be achieved with a combination of higher-solid solvent-borne coatings, efficient application equipment, and bake oven exhaust control.
(g) The owner or operator of any facility subject to this Rule shall comply with 15A NCAC 02D .0903 and .0958.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. September 1, 2010;
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