

**.0947 MANUFACTURE OF SYNTHESIZED PHARMACEUTICAL PRODUCTS**

- (a) For the purposes of this Rule, the following definitions 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 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 that store 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  $\pm 0.8$  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 must 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 psi at 68°F;
- (2) 5°F when condensing volatile organic compounds of vapor pressure greater than 2.9 psi at 68°F;
- (3) 32°F when condensing volatile organic compounds of vapor pressure greater than 1.5 psi at 68°F;
- (4) 50°F when condensing volatile organic compounds of vapor pressure greater than 1.0 psi at 68°F; or
- (5) 77°F when condensing volatile organic compounds of vapor pressure greater than 0.5 psi at 68°F.

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

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#### **.0948 VOC EMISSIONS FROM TRANSFER OPERATIONS**

(a) This Rule applies to operations that transfer volatile organic compounds from a storage tank to tank-trucks, trailers, or railroad tank cars that are not covered by Rule .0926, .0927, or .0928 of this Section.

(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 tank-truck, trailer, or railroad tank car from any loading operation unless the loading operation uses submerged loading through boom loaders that extend down into the compartment being loaded or by other methods that are at least as efficient based on source testing or engineering calculations.

*NCDQA History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
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*WNCRAQA History Note:*        *Adopted Eff. May 8, 2000;*  
   *Amended Eff. July 10, 2000.*

**.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 that are not covered by Rule .0925 or .0933.

(b) The owner or operator of any source to which this Rule applies 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 that has 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 sufficient at all times to prevent vapor gas loss into the atmosphere; 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;
  - (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.

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

*WNCRAQA History Note:*        *Adopted Eff. May 8, 2000;*  
   *Amended Eff. July 10, 2000.*

**.0950 INTERIM STANDARDS FOR CERTAIN SOURCE CATEGORIES (REPEALED)**

*NCDAQ History Note:*                    *Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
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Repealed Eff. July 10, 2000.*

**.0951 RACT FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

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

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

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

- (1) install and operate reasonable 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 Agency'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 Agency pursuant to this Subparagraph and Paragraph (d) of this Rule shall be submitted by the Agency to the NC Division of Air Quality and 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 Agency pursuant to this subsection 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 reasonable available control technology under Paragraph (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 reasonable available control technology limitation or standard is being proposed;

- (3) a demonstration that shows the proposed reasonable 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 reasonable control technology limitation or standard.

*NCDAQ 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

*WNCRAQA History Note:* Adopted Eff. May 8, 2000;  
Amended Eff. July 16, 2013; March 14, 2011; July 10, 2000.

#### **.0952 PETITION FOR ALTERNATIVE CONTROLS FOR RACT**

- (a) This Rule applies to all sources covered under 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 may petition the Director to allow the use of alternative operational or equipment controls for the reduction of volatile organic compound emissions. Petition shall be made for each source to the Director.
- (c) The petition shall contain:
  - (1) the name and address of the company and the name and telephone number of a company officer over whose signature the petition is submitted;
  - (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 under 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 Rule .0909 of this Section, 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 and need not duplicate information in the permit application.

- (d) The Director shall approve a petition for alternative control if:
  - (1) The petition is submitted in accordance with Paragraph (d) 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.

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

*WNCRAQA History Note:*            *Adopted Eff. May 8, 2000.  
Amended Eff. March 14, 2011; March 9, 2009; May 10, 2004.*

**.0953 VAPOR RETURN PIPING FOR STAGE II VAPOR RECOVERY (REPEALED)**

*NCDQA 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.*

**.0954 STAGE II VAPOR RECOVERY (REPEALED)**

*NCDAQ 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.*

*WNCRAQA History Note: Adopted Eff. May 8, 2000; Repealed Eff. March 9, 2009.*

**.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.
- (9) "Polyester solution mixture" means a mixture of polyester and solvents which 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 applies in accordance with Rule .0902 of this Section 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 such 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 Subparagraphs (3) through (5) of this Paragraph 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.

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

*WNCRAQA History Note:*                      *Adopted Eff. May 8, 2000*

**.0956 GLASS CHRISTMAS ORNAMENT MANUFACTURING**

(a) For the purpose of this Rule, the following definitions 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 in accordance with Rule .0902 of this Section 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 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.

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

*WNCRAQA History Note:*                *Adopted Eff. May 8, 2000*

#### **.0957 COMMERCIAL BAKERIES**

- (a) For the purpose of this Rule, the following definitions 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 Rule .0902 of this Section 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 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.
- (5) t = proof time + 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.

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

*WNCRAQA History Note:*                *Adopted Eff. May 8, 2000.*

#### **.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 coating, 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, 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 to comply with Chapter 4 .0518(d) 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 (Chapter 4 .0405).
- (f) The owner or operator of a source that has complied with Chapter 4 .0518 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 (Chapter 4 .0405).
- (g) All sources at a facility subject to this Rule shall be permitted unless they are exempted from permitting by Chapter 17 .0102, Activities Exempted From Permit Requirements.

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

*WNCRAQA History Note:* Adopted Eff. July 10, 2000.

**.0959 PETITION FOR SUPERIOR ALTERNATIVE CONTROLS**

- (a) This Rule applies to all sources covered under 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 may petition the Director to allow the use of alternative operational or equipment controls for the reduction of volatile organic compound emissions. The petition shall be made for each source to the Director.

(c) The petition shall contain:

- (1) the name and address of the company and the name and telephone number of a company officer over whose signature the petition is submitted;
- (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 detailed 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 and need not duplicate information in 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.

*NCDQA History Note:*

*Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*

*Eff. April 1, 2003.*

*WNCRAQA History Note: Adopted Eff. May 10, 2004.*

**.0960 CERTIFICATION OF LEAK TIGHTNESS TESTER**

(a) Purpose. The purpose of this Rule is to establish procedures for certifying facilities to perform leak tightness tests on truck tanks, as defined under Rule .0932 of this Section.

(b) Certification request. To request certification to perform leak tightness testing on truck tanks for the purposes of complying with Rule .0932 of this Section, a facility shall submit to the Director the following information:

- (1) the name and address of the facility requesting certification, including the primary contact and telephone number; and
- (2) the federal (tank cargo) number.

(c) Approval. The Director shall certify a facility requesting certification to perform leak tightness testing if he finds that:

- (1) All the information required under Paragraph (b) of this Rule has been submitted;
- (2) The Division has observed the facility conducting one or more leak tightness tests and finds that:
  - (A) The facility has the equipment necessary to perform Method 27 of 40 CFR Part 60, Subpart A; and
  - (B) The facility has the skills necessary to perform Method 27 of 40 CFR Part 60, Subpart A correctly.

(d) Expiration. A certification to perform leak tightness testing under this Rule shall expire one year from the date of its issuance.

(e) Renewal. To have a certification renewed, the certified facility shall submit to the Director a request to have the certification renewed. Within 30 days after receipt of the request, the Agency shall observe the certified facility conducting one or more leak tightness tests. If the Director finds that:

- (1) The certified facility has the equipment necessary to perform Method 27 of 40 CFR Part 60, Subpart A; and
- (2) The certified facility has the skills necessary to perform Method 27 of 40 CFR Part 60, Subpart A correctly,

he shall renew the certification. If the certified facility submits a request for renewal after the expiration of the last certification, the Director shall reject the renewal request, and the facility shall request a new certification under Paragraph (b) of this Rule.

(f) Interim certification. If the Division is unable to observe the performance of leak tightness testing required under Paragraphs (c) or (e) of this Rule, the Director may shall issue an interim certification for up to 90 days to allow the certified facility to perform leak tightness tests. An interim certification shall not be renewed.

(g) Revocation of Certification. If the Director finds that a certified facility is not performing Method 27 of 40 CFR Part 60, Subpart A correctly or that the certified facility is certifying tanks as leak tight that have not passed the leak tightness test, the Director shall revoke the facility's certification or interim certification.

(h) Stickers. The Agency shall provide serialized stickers at no cost, or the facility may choose to provide the stickers. If the facility provides the stickers, the stickers shall contain the same information that is on the stickers provide by the Agency and shall have the same dimensions and a sample sticker shall accompany the application for certification. Once a facility is certified under this Rule to perform leak tightness tests, stickers are to be:

- (1) affixed to tanks that have passed the test under Rule .0932 of this Section, and
- (2) placed near the Department of Transportation Certification (DOT, 49 CFR 178.340-10b).

The certified facility performing the test shall maintain a log matching sticker serial numbers and tank identification numbers. The certified facility shall send this log to the Director monthly.

(i) Certification report. The certified facility performing the test shall give a copy of the certification report to the truck tank owner and shall retain a copy of the certification report. The certification report shall contain the following information:

- (1) name, address, and telephone number of certified facility performing the test;
- (2) name and signature of the individual actually performing the test;
- (3) name and address of the owner of the tank;
- (4) serial number of the sticker and identification number of the tank;
- (5) the date that the sticker is issued and the date that the sticker expires, which shall be one year after the issuance date;
- (6) the pressure drops measured and vacuum drops measured;
- (7) list or description of problems with tank (if none are found, the report shall state that none were found).

(j) Record retention. The certified facility performing the test and the owner of the truck tank shall keep the certification report for at least two years. Certification reports shall be made available to the Agency upon request.

(k) Verification of leak tightness. The Division may use Method 21 to verify the leak tightness of a tank.

*NCDQA History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5), (13);  
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*WNCRAQA History Note:* Adopted Eff. May 10, 2004.

*Amended Eff. September 10, 2007.*

**.0961 OFFSET LITHOGRAPHIC PRINTING AND LETTERPRESS PRINTING**

(a) For the purposes of this Rule, the definitions listed in this Paragraph and Rules .0101 and .0902 of this Chapter 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 Subparagraph (c)(1) of Rule .0966 of this Section and whose emissions of volatile organic compounds exceed:

- (1) the threshold established in Paragraphs (b) and (f) of Rule .0902 of this Section; 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 at 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 and May 1, 2013, at facilities with potential to emit less than 100 tons of volatile organic compounds per year; or
    - (B) reduce 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 and May 1, 2013, at facilities with potential to emit less than 100 tons of volatile organic compounds per year; or
    - (C) maintain a maximum volatile organic compounds outlet concentration of 20 parts per million by volume (ppmv), as hexane (C<sub>6</sub>H<sub>14</sub>) on a dry basis.
- (g) The control limits established in:
- (1) Paragraphs (c), (d), and (e), shall not be applied to any press with total fountain solution reservoir of less than one gallon; and
  - (2) Paragraph (d) shall not be applied to sheet-fed presses with maximum sheet size 11x 17 inches or smaller; and
  - (3) Paragraph (f)(2) 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, the EPA test Method 24 or approved alternative methods shall be used;
  - (2) the control efficiency by measuring volatile organic compounds at the control device inlet and outlet, the EPA test Methods 18, 25, 25A, or approved alternative methods 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 the Rules .0605 and .0903 of this Chapter. 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;
  - (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 20°C; 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.
  - (3) 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; and
  - (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; and
  - (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; and
  - (4) the total amount of cleaning solutions used monthly with vapor pressure and the percentage of volatile organic compounds as applied which does not meet the vapor pressure or percentage of volatile organic compounds requirements of Paragraph (k) of this Rule; and
  - (5) 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 the Rules .0903 and .0605 of this Chapter.
- (m) The owner or operator of any source subject to this Rule shall comply with Rules .0903 and .0958 of this Section.

*NCDAQ History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
 Eff. September 1, 2010.  
 Amended Eff. May 1, 2013.

*WNCRAQA History Note:* Adopted Eff. March 14, 2011.  
 Amended Eff. July 16, 2013.

#### **.0962 INDUSTRIAL CLEANING SOLVENTS**

- (a) For the purpose of this Rule, the following definitions 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 established in Paragraph (b) of Rule .0902 of this Section 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 Rules .0918, .0919, .0921, .0923, .0924, .0930, .0934, .0935, .0936, .0961, .0963, .0964, .0965, .0966, .0967, and .0968 of this Section.

(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 contains less than 1.67 pounds VOC per gallon or has 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; and
  - (B) drain volatile organic compounds containing cleaning materials from the cleaned equipment upon completion of cleaning; and
  - (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 Paragraph (d)(1) of this Rule if no more than 60 gallons of fresh solvent shall be used per month. Organic solvent that is 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 nine 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 (mmHg) at 20 degrees Celsius.
- (f) EPA Method 24 (40 CFR Part 60, Appendix A-7) 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 which have chosen to use add-on control rather than to comply with the emission limits established in Paragraph (e) of this Rule shall install control equipment with 85 percent overall efficiency.
- (h) The owner or operator of any facility subject to this Rule shall comply with the Rules .0903 and .0958 of this Section.

*NCDQA History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
Eff. September 1, 2010;  
Amended Eff. May 1, 2013.*

*WNCRAQA History Note: Adopted Eff. March 14, 2011.  
Amended Eff. July 16, 2013.*

**.0963 FIBERGLASS BOAT MANUFACTURING MATERIALS**

- (a) For the purpose of this Rule, the following definitions 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 a part of the cured resin.

- (3) "Open molding" means the open mold which 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 exceed the threshold established in Paragraph (b) of Rule .0902 of this Section from sources for the following operations:

- (1) open molding and gel coat operations (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 (pleasure craft); 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:

$$\sum_{i=1}^n (M_i \text{ VOC}_i)$$

$$\text{Weighted Average Monomer VOC Content} = \frac{\sum_{i=1}^n (M_i)}{\sum_{i=1}^n (M_i)}$$

Where:  $M_i$  = mass of open molding resin or gel coat  $i$  used in the past 12 month in an operation, 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 month in an operation.

(e) Molding monomer and non-monomer 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 life saving 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 nonatomizing 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 vinylester resin used for skin coats that are applied with nonatomizing 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:

- (1) Equation 2 to estimate a facility-specific monomer volatile organic compounds mass emission limit (12-month rolling average). Estimations of emissions average shall be determined on 12-month rolling average basis at the end of every month (12 times per year).

Equation 2:

$$\text{Monomer VOC Limit} = 46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})$$

Where:

Monomer VOC Limit = total allowable monomer volatile organic compounds that can be emitted from the open molding operations included in the average, kilograms per 12-month period.

$M_R$  = mass of production resin used in the past 12 month excluding any materials that are exempt, megagrams.

$M_{PG}$  = mass of pigmented gel coat used in the past 12 month, excluding any materials that are exempt, megagrams.

$M_{CG}$  = mass of clear gel coat used in the past 12 month, excluding any materials that are exempt, megagrams.

$M_{TR}$  = mass of tooling resin coat used in the past 12 month, excluding any materials that are exempt, megagrams.

$M_{TG}$  = mass of tooling gel coat used in the past 12 month, excluding any materials that are exempt, megagrams.

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) Equation 3 to demonstrate that 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. 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 and materials that included in the average.

Equation 3:

$$\text{Monomer VOC emissions} = (PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})$$

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, kilograms.

$PV_R$  = weighted-average monomer volatile organic compounds emission rate for production resin used in the past 12 month, kilograms per megagram.

$M_R$  = Mass of production resin used in the past 12 month, megagrams.

$PV_{PG}$  = weighted-average monomer volatile organic compounds emission rate for pigmented gel coat used in the past 12 month, kilograms per megagram.

$M_{PG}$  = mass of pigmented gel coat used in the past 12 month, megagrams.

$PV_{CG}$  = weighted-average monomer volatile organic compounds emission rate for clear gel coat used in the past 12 month, kilograms per megagram.



$M_{CG}$  = Mass of clear gel coat used in the past 12 month, megagrams.

$PV_{TR}$  = Weighted-average monomer volatile organic compounds emission rate for tooling resin used in the past 12 month, kilograms per megagram.

$M_{TR}$  = Mass of tooling resin used in the past 12 month, megagrams.

$PV_{TG}$  = Weighted-average monomer volatile organic compounds emission rate for tooling gel coat used in the past 12 month, kilograms per megagram.

$M_{TG}$  = Mass of tooling gel coat used in the past 12 month, megagrams.

- (3) Equation 4 to compute the weighted-average monomer volatile organic compounds emission rate for the previous 12 month for each open molding resin and gel coat operation included in the average to apply the results in Equation 3.

Equation 4:

$$PV_{OP} = \frac{\sum_{i=1}^n (M_i PV_i)}{\sum_{i=1}^n (M_i)}$$

Where:

$PV_{OP}$  = weighted-average monomer volatile organic compounds emission rate for each open molding operation ( $PV_R$ ,  $PV_{PG}$ ,  $PV_{CG}$ ,  $PV_{TR}$ , and  $PV_{TG}$ ) included in the average, kilograms of monomer volatile organic compounds per megagram of material applied.

$M_i$  = mass of resin or gel coat  $i$  used within an operation in the past 12 month, megagrams.

$n$  = number of different open molding resins and gel coats used within an operation in the past 12 month.

$PV_i$  = the monomer volatile organic compounds emission rate for resin or gel coat  $i$  used within an operation in the past 12 month, kilograms of monomer volatile organic compounds per megagram of material applied. Equations in Table 2 shall be used to compute  $PV$ .

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
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		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 of higher-monomer volatile organic compounds materials rather than to comply with the emission limits established in Paragraph (d) of this Rule he shall:

- (1) install control equipment to meet the emission limit determined by Equation 2 in Subparagraph (f)(1) of this Rule, 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 it 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 for the value  $PV_i$  in Equation 4 in Subparagraph (f)(3) of this Rule.

Equation 5:

$$PV_F = \frac{PV_U \times (100 - \% \text{Filler})}{100}$$

Where:  $PV_F$  = The as-applied monomer volatile organic compounds emission rate for the filled production resin or tooling resin, kilograms monomer VOC per megagram of filled material.

$PV_U$  = 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.

$\% \text{Filler}$  = 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) shall meet 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 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.
- (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 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 the Rules .0903 and .0958 of this Section.

*NCDQAQ History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); Eff. September 1, 2010.*

*WNCRAQA History Note: Adopted Eff. March 14, 2011.*

#### **.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 (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 (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 Rules .0921, .0923, .0934, .0935, .0936, .0961, .0962, .0963, .0965, .0966, .0967, and .0968 of this Section are exempted from the requirements of this Rule.

(c) This Rule applies to miscellaneous industrial adhesive application sources whose volatile organic compounds emissions exceed the threshold established in Paragraph (b) of Rule .0902 of this Section.

(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 Paragraph; 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) 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 (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 Limit <sup>1</sup> (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
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(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 (40 CFR Part 60, Appendix A-7) 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 Rules .0903 and .0958 of this Section.

*NCDAQ History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
Eff. September 1, 2010.*

*WNCRAQA History Note: Adopted Eff. March 14, 2011.*

#### **.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 the shape of which 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) 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 exceed the threshold established in Paragraph (b) of Rule .0902 of this Section.

(c) 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 which has chosen to use add-on control for coating operations rather than to 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 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 (40CFR Part 60, Appendix A-7) 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 the Rules .0903 and .0958 of this Section.



*NCDQA History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
Eff. September 1, 2010.

*WNCRAQA History Note:* Adopted Eff. March 14, 2011.

#### **.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) With the exception in Paragraph (c) of this Rule, this Rule applies to paper, film and foil surface coating operations sources, including related cleaning activity, whose emissions of volatile organic compounds exceed the threshold established in Paragraph (b) of Rule .0902 of this Section, 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) With the exception stated in Paragraph (c) of this Rule, 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);
- (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); and
- (3) The volatile organic compounds content limits shall be determined in accordance with Subparagraphs (c)(2) and (c)(3) of Rule .0912 of this Section.

(e) EPA Method 24 or 25A (40CFR Part 60, Appendix A-7) 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 the Rules .0903 and .0958 of this Section.

*NCDQA History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
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#### **.0967 MISCELLANEOUS METAL AND PLASTIC PARTS COATINGS**

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

- (1) "Air dried coating" a means 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 which contains binders, but no pigment, and is formulated to form a transparent film.
- (4) "Coating unit" means series one or more coating applicators and any associated drying area and oven wherein a coating is applied, dried, and cured.
- (5) "Drum" means any cylindrical metal shipping container larger than 12 gallons capacity but no larger than 110 gallons capacity.
- (6) "Electric dissipating coating" means a coating that rapidly dissipates a high voltage electric charge.
- (7) "Electric-insulating varnish" means a non-convertible-type coating applied to electric motors, components of electric motors, or power transformers, to provide electrical, mechanical, and environmental protection or resistance.
- (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 and which meets the requirements of the Architectural Aluminum Manufacturer Association's publication number AAMA 2604-05 (Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels) or 2605-05 (Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels).
- (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. Such parts or products 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, heavier vehicles, 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, is not considered a component.

(b) This Rule applies to miscellaneous metal and plastic parts surface coating units whose volatile organic compounds emissions exceed the threshold established in Paragraph (b) of Rule .0902 of this Section 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 vehicles, 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 Rules .0921, .0922, .0923, .0935, .0936, .0961, .0962, .0963, .0964, .0965, .0966, and .0968 of this Section.

(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 Specification;	4.52	3.35
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 <sup>1</sup>	
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/Surfacers; 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 Surfacers; Other Substrate Antifoulant Coating	4.4

(f) EPA Method 24 or 25A (40CFR Part 60, Appendix A-7) 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 the Rules .0903 and .0958 of this Section.

*NCDAQ History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
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#### **.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-450/3-88-018).
- (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 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 exceed the threshold established in Paragraph (b) of Rule .0902 of this Section 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 which 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 (e.g., 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. They are covered by Rules .0964, and .0967 of this Section; and
- (3) aftermarket repair or replacement parts for automobiles or light-duty trucks that are covered by Rules .0964, and .0967 of this Section.

(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		
	When solids turnover ratio ( $R_T$ ) $\geq 0.16$ ;	When $0.040 \leq R_T < 0.160$ ;	When $R_T < 0.040$ ;
Electrodeposition primer (EDP) operations (including application area, spray/rinse stations, and curing oven)	0.7lb/gal coatings solids applied.	$0.084^{0.160-R} \times 8.34$ lb/gal coating solids applied.	No VOC emission limit.
	12.0 lb VOC/gal deposited solids on a daily weighted average basis as determined by following the procedures in the revised Automobile Topcoat Protocol		
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 revised 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 revised 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 revised 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

Material	VOC Emission Limit
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 (40 CFR Part 60, Appendix A-7) 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 the Rules .0903 and .0958 of this Section.

*NCDAQ History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
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