

RULE 67.19. COATINGS AND PRINTING INKS MANUFACTURING OPERATIONS (Adopted & Effective: 6/7//94)

(a) APPLICABILITY

Except as otherwise provided in Section (b), this rule is applicable to any person who manufactures coatings or printing inks. Mixing, blending, and compounding operations subject to Section (d) of this rule shall not be subject to Rule 67.17. Manufacturing operations and equipment cleaning operations subject to this rule shall not be subject to Rule 66 or 67.6.

(b) EXEMPTIONS

(1) The provisions of this rule shall not apply to any stationary source where emissions of volatile organic compounds (VOC's) from all coating and/or printing ink manufacturing operations are less than an average of 15.0 pounds (6.8 kg) per day of operation for each calendar month, provided the owner or operator of the stationary source maintains monthly usage and production records of VOC containing materials necessary to establish average daily VOC emission levels. The average daily emission levels shall be determined by taking into account the number of operational days per given month. The monthly records of VOC containing materials shall be retained on site for at least three years and made available to the District upon request.

(2) The requirements of Subsection (d)(2) of this rule shall not apply to a stationary source where the combined uncontrolled emissions of VOC's from all coating and/or ink manufacturing operations, including emissions from equipment cleaning, are less than 25 tons in each calendar year.

(3) The requirements of Subsection (d)(3) of this rule shall not apply to any stationary storage tank with a capacity of less than 550 gallons (2080 liters) or to any stationary storage tank used exclusively for storage of epoxy resins, water-based coatings or inks, or paste inks.

(4) The requirements of Subsections (d)(1) and (d)(2) of this rule shall not apply to mixing vats that are used exclusively for mixing water-based coatings or inks.

(c) DEFINITIONS

For the purposes of this rule, the following definitions shall apply:

(1) **"Coating"** means a material which can be applied to a surface and which forms a solid continuous film in order to beautify and/or protect the surface. This includes, but is not limited to, any primer, paint, varnish, stain, lacquer, enamel, shellac, sealer, or maskant, but excludes adhesive.

(2) **"Exempt Compound"** means any of the following compounds or classes of compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trifluoromethane (HFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), chlorodifluoromethane (HCFC-22), dichlorotrifluoroethane (HCFC-123), dichlorofluoroethane (HCFC-141b), 1,1,1,2-tetrafluoroethane (HFC-134a), 1,1,2,2-tetrafluoroethane (HFC-134), chlorodifluoroethane (HCFC-142b), 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124), pentafluoroethane (HFC-125), 1,1,1-trifluoroethane (HFC-143a), 1,1-

difluoroethane (HFC-152a), and the following four classes of perfluorocarbon (PFC) compounds:

- (i) Cyclic, branched, or linear, completely fluorinated alkanes;
- (ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
- (iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(3) **"Existing Equipment"** means any coating or printing ink manufacturing equipment for which a District Authority to Construct or Permit to Operate was issued before June 7, 1994.

(4) **"Fugitive Liquid Leak"** means a visible leak of material containing more than 10 percent of VOC by weight, at a rate in excess of three drops per minute.

(5) **"Magie Oil"** means any hydrocarbon petroleum distillate which has an initial boiling point between 510-630°F (266-333°C).

(6) **"Manufacturing Operations"** means mixing, blending, and/or compound-ing operations, including the addition of materials in such operations, associated with the production of coatings and/or printing inks for sale for off-site use.

(7) **"Mixing Vat"** means any vat used to grind, disperse, mix, blend, and/or compound coating or printing ink ingredients.

(8) **"New Equipment"** means any coating or printing ink manufacturing equipment for which an Authority to Construct was issued after June 7, 1994.

(9) **"Paste Ink"** means a printing ink that contains, primarily, Magie oil or diethylene glycol as solvent.

(10) **"Printing Ink"** means any fluid or viscous composition used in printing, impressing, or transferring an image onto a substrate.

(11) **"Production Cycle"** means an interval of time between the start and the finish of a coatings or printing inks manufacturing process during which the entire sequence of operations necessary for the production of a specific coating or printing ink is completed.

(12) **"Stationary Source"** as defined in Rule 20.1.

(13) **"Stationary Storage Tank"** means any tank, reservoir, or other container used to store, but not transport, VOC containing materials.

(14) **"Submerged Fill Pipe"** means any fill pipe which has its discharge opening entirely submerged when the liquid level is six inches above the bottom of the tank. "Submerged fill pipe," when applied to a tank which is loaded from the side, means any fill pipe which has its discharge opening entirely submerged when the liquid level is 18 inches above the bottom of the tank.

(15) **"Uncontrolled VOC Emissions"** means VOC emissions from a coating and/or printing ink manufacturing operation which occurred or would have occurred in the absence of any air pollution control equipment added or process modifications made on or after November 15, 1990.

(16) **"Volatile Organic Compound (VOC)"** means any volatile compound containing at least one atom of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonates, and exempt compounds which may be emitted to the atmosphere during the production of coatings and/or printing inks subject to this rule.

(17) **"Water-Based Coating or Ink"** means a water miscible or water reducible coating or ink that contains more than five percent of water by weight.

(18) **"Wipe Cleaning"** means a method of cleaning by physically rubbing a surface with a material such as a rag or paper wetted with a cleaning solvent to remove contaminants or coating or printing ink residues from the surface.

(d) STANDARDS

(1) A person shall not manufacture coatings and/or printing inks containing VOC's unless all mixing vats used for such manufacture are kept covered, except when adding materials, taking samples, visually inspecting the fluid level, or wipe cleaning the vats, with lids which satisfy the following conditions:

(i) Lids are maintained in good condition such that, when in place, they maintain contact with the rim with gaps less than or equal to 1/2 inch in width for at least 90 percent of the circumference of the rim of the vat. The cumulative length of gaps between the lid and the rim of the vat exceeding 1/2 inch in width shall not exceed 10 percent of the circumference; and

(ii) There are no holes, tears, or openings in the lid, except the slit specified in Subsection (d)(1)(iii) and openings for adding materials, taking samples, or visually inspecting the fluid level. The openings shall be equipped with covers which do not have any holes or tears. All openings shall be covered when the mixing vat is not being accessed; and

(iii) The lid may have a slit to allow clearance for insertion of a mixer shaft if so equipped. The width of the slit in the lid for the mixer shaft shall be no more than 2 inches greater than the diameter of the mixing shaft, or no more than 4 inches greater than the diameter of the mixing shaft for lids on mixing vats subject to Subsection (d)(2). For any mixing vat with a capacity of more than 55 gallons (208 liters), the slit shall be covered after insertion of the mixer, except to allow safe clearance for the mixer shaft.

In lieu of complying with the provisions of Subsection (d)(1), a person may elect to use an air pollution control system which meets the requirements of Sections (e) and (h).

(2) Except as provided in Subsection (b)(2), a person shall not conduct any coating and/or printing ink manufacturing operations unless uncontrolled VOC emissions from mixing vats used for such operations are reduced by at least 90 percent by weight.

(3) Except as provided in Subsection (b)(3) a person shall not transfer or allow the transfer of resins, coatings, printing inks, or solvents containing VOCs into any stationary storage tank unless such tank is:

- (i) Equipped with a submerged fill pipe; or
- (ii) Vented to an air pollution control system which meets the requirements of Sections (e) and (h).

(4) A person shall not manufacture coatings and/or printing inks unless fugitive liquid leaks in equipment storing, mixing, blending, or transferring materials containing more than 10 percent of VOC by weight are promptly recorded and repaired. Repair shall be completed the first time the leaking equipment is off-line for a period of time long enough to complete the repair, but in no case more than 72 hours after a leak was first detected and recorded. The record shall specify the time, date, and location of each observed leak and the time and date of repair. Records shall be retained on site for at least three years and made available to the District upon request. An unrecorded leak shall be considered a violation of this rule.

(5) A person shall not clean any equipment used in the manufacturing of coatings and/or printing inks unless:

- (i) The cleaning material contains 200 grams or less of VOC per liter of material or has a total vapor pressure of VOC of 20 mm Hg or less at 68°F (20°C); or

- (ii) Cleaning is conducted using an enclosed system which includes a container that completely encloses the equipment being cleaned during cleaning, except to place or remove the equipment. The cleaned equipment shall be completely drained of excess cleaning material before the container is opened for removal of the equipment. The drained cleaning material shall be returned to a closed container. The cleaning device shall be kept closed during the intervals between cleaning cycles unless access is required for maintenance or repair. The cleaning device may be equipped with vents provided that such vents are necessary to comply with applicable fire and safety codes; or

- (iii) Cleaning is conducted using an enclosed system which has in place an apparatus or lid which completely covers the equipment being cleaned during washing, rinsing, and draining and has no visible holes, breaks, openings, or separations. The drained cleaning material shall be returned to a closed container. The system may be equipped with vents provided that such vents are necessary to comply with applicable fire and safety codes; or

- (iv) The cleaning material is collected in a manner to minimize emissions and is reclaimed on site, and all fresh cleaning materials used at the facility, excluding cleaning materials used in enclosed systems which satisfy the requirements of Subsection (d)(5)(ii) or (d)(5)(iii), are in compliance with the requirements of Subsection (d)(5)(i). The resulting wastes from on site reclamation systems shall not contain more than 20 percent VOC by weight; or

- (v) The equipment or equipment parts are cleaned in a container which is open only when being accessed or when cleaning material is being added, and clean equipment and/or equipment parts are drained to the container until dripping ceases; or

- (vi) The cleaning material is flushed through the equipment, provided that the supplying and receiving vessels are covered with lids meeting the requirements of Subsection (d)(1).

(e) CONTROL EQUIPMENT

(1) A person who elects to comply with the provisions of Subsection (d)(2) by using an air pollution control system shall use a system which:

- (i) Has been installed in accordance with an Authority to Construct; and
- (ii) Includes an emission collection system which captures VOC emissions generated from coating and/or ink manufacturing operations, and transports the captured emissions to an air pollution control device; and
- (iii) Has an overall emissions control efficiency of at least 90 percent by weight.

Emissions over an entire production cycle, not exceeding five hours, shall be used to determine compliance with the control efficiency requirements of Subsection (e)(1)(iii).

(2) A person subject to the provisions of Subsection (e)(1) shall submit an Operation and Maintenance Plan for the air pollution control device and emission collection system to the Air Pollution Control Officer for approval. Thereafter, the plan can be modified, with written Air Pollution Control Officer approval, as necessary to ensure compliance. Such plan shall:

- (i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1) such as temperatures, pressures, and flow rates; and
- (ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed recordkeeping practices regarding the key system operating parameters.

(3) The Operation and Maintenance Plan must be submitted to the Air Pollution Control Officer and receive approval prior to operation of the air pollution control equipment. A person subject to the requirements of this section shall implement the plan on the approval of the Air Pollution Control Officer, and shall comply with the provisions of the approved plan thereafter.

(f) RECORDKEEPING

Any person who manufactures coatings and/or printing inks shall maintain records in accordance with the following requirements:

(1) Maintain records necessary to establish calendar year emission levels for all coating and/or printing ink manufacturing operations at the stationary source. These records shall include, but shall not be limited to, the type and amount of each coating or printing ink produced during each calendar year.

(2) Maintain a current list showing the VOC content or total vapor pressure of VOC, as applicable, for each cleaning material used.

(3) Maintain records of the amounts of cleaning materials used during each calendar year.

(4) For air pollution control equipment, maintain records sufficient to demonstrate continuous operation and compliance of the emission control device during periods of

emission producing activities, including daily records of the control equipment's key system operating parameters specified in Subsection (e)(2)(i).

These records shall be retained on site for at least three years and made available to the District upon request.

(g) TEST METHODS

(1) Uncontrolled VOC emission rates from coating and/or ink manufacturing operations shall be determined using emission factors specified in EPA Publication AP-42, Compilation of Air Pollutant Emission Factors, as it exists on June 7, 1994. An alternative method for determining VOC emissions may be used provided such method has been approved, in advance, by the Air Pollution Control Officer, the Air Resources Board (ARB), and U.S. Environmental Protection Agency (EPA).

(2) Measurement of VOC content of reclamation wastes pursuant to Subsection (d)(5)(iv) shall be conducted and reported in accordance with EPA Method 25D as referenced in 56 Federal Register 33494, July 22, 1991.

(3) The overall control efficiency pursuant to Subsection (e)(1)(iii) shall be determined by multiplying the capture efficiency of the emission collection system by the control efficiency of the air pollution control device. The control efficiency of the air pollution control device shall be determined using EPA Methods 18, 25 and/or 25A (40 CFR 60, Appendix A), as they exist on June 7, 1994, and test procedures shall be performed in accordance with a protocol approved by the Air Pollution Control Officer. The capture efficiency shall be determined using a protocol approved by the Air Pollution Control Officer. Subsequent to the initial compliance demonstration period, applicable key system operating parameters, as approved by the Air Pollution Control Officer, shall be used as indirect verification that capture efficiency performance has not diminished.

(4) Total vapor pressure of VOC in cleaning materials subject to Subsection (d)(5)(i) shall be calculated by using the District's "Procedure for Estimating the Vapor Pressure of a Solvent Mixture" as it exists on June 7, 1994. If the calculated vapor pressure of the liquid mixture exceeds the limit specified in Subsection (d)(5)(i), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D 2879-83, Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope. The fraction of water and exempt compounds in the liquid phase shall be determined using ASTM Standard Test Methods D 3792-86 and D 4457-85, respectively, and shall be used to calculate the partial pressure of water and exempt compounds. The fraction of VOC's shall be determined by using manufacturer specification data. The results of vapor pressure measurements obtained using ASTM Standard Test Method D2879-83 shall be corrected for the partial pressure of water and exempt compounds.

(5) The VOC content of liquids pursuant to Subsection (c)(4) and cleaning materials subject to Subsection (d)(5)(i) shall be determined in accordance with EPA Test Method 24 or 24A (40 CFR 60, Appendix A), as applicable, as they exist on June 7, 1994.

(6) Perfluorocarbon (PFC) compounds shall be assumed to be absent from a coating, printing ink, or cleaning material subject to this rule unless a manufacturer of the material or a facility operator identifies the specific individual compound(s) and the amount(s) present in the material and provides an EPA and ARB approved test method which can be used to quantify the specific compounds.

(7) Measurements of the initial boiling point of Magie oils pursuant to Subsection (c)(5) shall be conducted in accordance with ASTM Standard Test Method D 1078-86.

(8) The water content of coatings pursuant to Subsection (c)(17) shall be determined in accordance with ASTM Standard Test Method D 3792-86.

(h) COMPLIANCE SCHEDULE

Except as otherwise provided in this section, the requirements of this rule shall be effective on and after June 7, 1995.

(1) Any person operating existing equipment, who is subject to the provisions of Subsection (d)(2), except for existing equipment manufacturing coatings containing 1,1,1-trichloroethane, and who installs air pollution control equipment to meet the requirements of that subsection shall meet the following increments of progress:

(i) By December 7, 1994, submit to the Air Pollution Control Officer an application for Authority to Construct and Permit to Operate an air pollution control system meeting the requirements of Section (e).

(ii) By June 7, 1995, install air pollution control equipment pursuant to Subsections (d)(1) and (d)(2).

(2) Any person operating existing equipment, except for existing equipment manufacturing coatings containing 1,1,1-trichloroethane, who is subject to the provisions of Subsection (d)(2), and implements process modifications to meet the requirements of that subsection shall meet the following increments of progress:

(i) By December 7, 1994, submit a process modification plan for meeting the requirements of Subsection (d)(2) to the Air Pollution Control Officer for approval. Thereafter, the plan can be modified with the approval of the Air Pollution Control Officer as necessary to ensure compliance.

(ii) By June 7, 1995, fully implement the plan that has been approved by the Air Pollution Control Officer pursuant to Subsection (h)(2)(i).

(3) Any person operating existing equipment which manufactures coatings containing 1,1,1-trichloroethane who is subject to the provisions of Subsection (d)(2) shall submit to the Air Pollution Control Officer a phase-out schedule for such coating manufacture with a final termination date not later than January 1, 1996.

(4) Any person operating existing equipment who is electing to use enclosed cleaning systems pursuant to Subsection (d)(5)(ii) or (d)(5)(iii) shall comply with Subsection (d)(5)(ii) or (d)(5)(iii) by June 7, 1995.

(5) Any person installing new equipment subject to this rule shall comply with the provisions of this rule upon startup.