apcd
County of San Diego

R. J. Sommerville
Air Pollution Control Officer

NOTICE OF WORKSHOP
FOR DISCUSSION OF NEW PROPOSED RULE 67.19 COATINGS AND PRINTING INKS MANUFACTURING OPERATIONS

The San Diego County Air Pollution Control District will hold a public meeting to consider the adoption of a new rule, Rule 67.19 - Coatings and Printing Inks Manufacturing Operations. Comments regarding the proposed rule may be submitted in writing before, or made at the workshop, which is scheduled as follows:

DATE: July 9, 1991

TIME: 9:00 AM

PLACE: General Services' Conference Room (#220)
County Operations Center
Building #2
San Diego, CA 92123

Rule 67.19 is a new rule designed to control emissions of volatile organic compounds (VOC's) from the manufacturing of coatings and printing inks. It will affect manufacturing facilities which mix, blend and/or compound coatings or printing inks for sale for off-site use. Any facility emitting less than 15.0 pounds per day of VOC from all manufacturing operations associated with the production of coatings or printing inks will be exempt from the rule.

Rule 67.19 will accomplish the following:

- Require all mixing vats be kept covered with lids. A person may elect to use an air pollution control system in lieu of complying with this requirement.
- Require facilities emitting more than 100 pounds of VOC in any day of operation (before controls, and excluding equipment cleaning operations) to install air pollution control systems which capture at least 95% of VOC emissions and reduce such captured VOC by at least 95%.
- Require all stationary storage tanks be submerged filled, except storage tanks of less than 550 gallons and tanks used to store water-based coatings or paste inks.
- Require fugitive liquid leaks be promptly recorded and repaired, as specified.
- Require equipment cleaning be conducted using either cleaning materials containing 200 grams or less of VOC per liter of material or cleaning materials with 20 mm Hg or less vapor pressure at 20°C. Alternatively, cleaning devices can be used which completely enclose the equipment being cleaned. A person may elect to use an air pollution control system in lieu of complying with the equipment or cleaning solvent requirements.
- Specify requirements if control equipment is used to comply.
- Require records be kept, as specified, to establish daily emission levels.

AIR POLLUTION CONTROL DISTRICT
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- Specify test method requirements.

A schedule for complying with the above requirements is included in Rule 67.19. The use of lids on mixing vats will be required immediately upon adoption of the rule. Compliance with equipment cleaning requirements will be required within six months of rule adoption. Installation of air pollution control systems will be required within twenty-one months of rule adoption.

If you would like a copy of the proposed Rule 67.19, please call Juanita Ogata at (619) 694-3307. If you have any questions concerning the proposal, please call Natalie Zlotin at (619) 694-3312 or me at (619) 694-3303.

Richard J. Smith

RICHARD J. SMITH
Deputy Director

RJS:TTL:jo
06/03/91

Proposed Rule 67.19 is added to Regulation IV to read as follows:

RULE 67.19. COATINGS AND PRINTING INKS MANUFACTURING OPERATIONS

(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 this rule and in compliance with Section (d) of this rule shall not be subject to Rule 67.17. Manufacturing operations subject to this rule and in compliance with the provisions of this rule shall not be subject to Rule 66.

(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 equipment are less than 15.0 pounds (6.8 kg) on each day of operation, provided the operator of such equipment maintains daily records necessary to establish daily emission levels. These records shall be retained on site for at least three years and shall be made available to the District upon request. For the purposes of this exemption, all process emissions, including those from equipment cleanup, shall be summed to determine daily emission rate.

(2) 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 for storage of water-based coatings or paste inks.

(c) DEFINITIONS

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

(1) **"California Coastal Waters"** means that area between the San Diego County coastline and a line starting at the intersection of a line joining:

34.0° N	120.5° W
and 33.0° N	119.5° W

and a line 33.7° W from the San Diego County line:

thence to 33.0° N	119.5° W
thence to 32.5° N	118.5° W

and ending at the California-Mexico border at the Pacific Ocean.

(2) **"Coating"** means a material which can be applied as a thin layer to a substrate, including but not limited to any paint, varnish, stain, lacquer, enamel, shellac, sealer, or maskant.

(3) **"Coating or Printing Ink Disperser"** means an equipment used to disperse coating or printing ink solids, including but not limited to any grinding mill, high speed dispersion mill or roller mill. The container used to hold the coating or printing ink during dispersion operations shall be considered as part of the disperser.

(4) **"Exempt Compound"** means any of the following compounds: methylene chloride; 1,1,1-trichloroethane; trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (CFC-22), trifluoromethane (FC-23); trichlorotrifluoroethane (CFC-113); dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); dichlorotrifluoroethane (HCFC-123); tetrafluoroethane (HFC-134a); dichlorofluoroethane (HCFC-141b); chlorodifluoroethane (HCFC-142b); 2-chloro1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); cyclic, branched, or linear, completely fluorinated alkanes, ethers and tertiary amines with no unsaturations; and sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(5) **"Existing Equipment"** means any coating or printing ink manufacturing equipment for which a District Authority to Construct or Permit to Operate was issued before (*date of adoption*).

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

(7) **"Grinding Mill"** means a mill with cylindrical chambers containing grinding media such as balls, stones, pebbles, or sand that grind and disperse coating or printing ink solids.

(8) **"High Speed Dispersion Mill"** means a mixer with one or more blades that rotate at high speed in order to disperse coating or printing ink solids.

(9) **"Manufacturing Operations"** mean mixing, blending, compounding, and/or cleaning operations associated with the production of coatings and/or printing inks for sale for off-site use.

(10) **"New Equipment"** means any coating or printing ink manufacturing equipment for which an Authority to Construct was issued after (*date of adoption*).

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

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

(13) **"Roller Mill"** means a mill with horizontal rollers that grind and disperse coating or printing ink solids.

(14) **"Stationary Source"** means a unit or an aggregation of units of non-vehicular air contaminant emitting articles, machines, equipment or other contrivances, all of which are located on one property or adjoining properties under the same ownership or entitlement to use and operate. This includes any unit or aggregation of units in the California Coastal Waters off San Diego County.

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

(16) **"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.

(17) **"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.

(18) **"Water-Based Coating"** means a coating that contains more than 5 percent water by weight in its volatile fraction.

(19) **"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 unless all mixing vats used for such manufacture are kept covered, except when adding raw materials, taking samples, 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 for at least 90 percent of the circumference of the rim of the vat. For not more than 10 percent of the circumference, there shall be no gap greater than 1/8 inch in width between the lid and the rim of the vat; and

(ii) There are no holes, tears or openings in the lid, except a slit to allow clearance for insertion of a mixer shaft if so equipped. The slit shall be covered after insertion of the mixer, except to allow safe clearance for the mixer shaft. The diameter of the opening in the lid for the mixer shaft shall be no more than 2 inches greater than the diameter of the mixing 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) A person shall not operate any coating or printing ink disperser at a stationary source emitting more than 100 pounds of VOC in any day of operation (45.4 kg/day), before controls, from all coating and/or printing ink manufacturing operations, excluding equipment cleaning operations, unless VOC emissions from the disperser are vented to an air pollution control system which meets the requirements of Sections (e) and (h).

(3) A person shall not transfer or allow the transfer of resins, coatings, printing inks or solvents into any stationary storage tank unless such tank is equipped with a submerged fill pipe.

(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 24 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 shall be made available to the District upon request. An unrecorded leak shall be considered a violation of this rule.

(5) Effective (*six months after date of adoption*), 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 a manufacturing equipment cleaning device 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 can be 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.

In lieu of complying with the provisions of Subsection (d)(5)(i) or (d)(5)(ii), a person may elect to use an air pollution control system which meets the requirements of Sections (e) and (h).

(e) CONTROL EQUIPMENT

(1) A person subject to the provisions of Subsection (d)(2) or electing to use control equipment to comply with the requirements of Subsections (d)(1) and/or (d)(5) shall comply by using an air pollution control system which:

(i) Has been installed in accordance with an Authority to Construct; and

(ii) Includes an emission collection system which captures at least 95 percent by weight of the VOC emissions, including emissions associated with filling and emptying operations, generated from the mixing vats, dispersers or equipment cleaning, as applicable, and transports emissions to the air pollution control device; and

(iii) Includes an air pollution control device which reduces captured VOC emissions by at least 95 percent by weight.

Emissions over an entire production cycle shall be used to determine compliance with the control efficiency requirements of Subsections (e)(1)(ii) and (e)(1)(iii).

(2) A person subject to the provisions of Subsection (e)(1) of this rule shall submit an Operation and Maintenance Plan for the VOC air pollution control device and emission collection system to the Air Pollution Control Officer for approval. Such plan shall:

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsections (e)(1)(ii) and (e)(1)(iii); such as temperatures, pressures and flow rates .

(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 daily records necessary to establish daily emission levels for each coating or printing ink disperser. These records shall include, but shall not be limited to, the type and amount of each coating or printing ink produced, the type and amounts of each ingredient containing VOC used, and the types and amounts of cleaning materials used.

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

(3) The recordkeeping requirements contained in Subsection (d)(4).

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

(g) TEST METHODS

(1) The VOC content of cleaning materials subject to Subsection (d)(5)(i) of this rule shall be determined in accordance with ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-73, General Techniques of Infrared Quantitative Analysis, E 168-67, or General Techniques of Ultraviolet Quantitative Analysis, E 169-63.

(2) Measurements of VOC emissions subject to Section (e) of this rule shall be conducted, using a protocol approved by the District, in accordance with EPA Methods 18 and 25 (40 CFR 60, Appendix A), as they exist on (*date of adoption*), and with EPA Capture Efficiency Test Method published in 55 FR 26865, June 29, 1990. An alternative method for determining capture efficiency may be used provided such method has been approved, in advance, by the Air Pollution Control Officer and U. S. Environmental Protection Agency for the specific processes being tested.

(3) Total vapor pressure of VOC in cleaning materials subject to Subsection (d)(5)(i) of this rule shall be calculated by using the District's "Procedure for Estimating the Vapor Pressure of a Solvent Mixture" as it exists on (*date of adoption*). 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 and shall be used to calculate the partial pressure of water and exempt compounds. 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.

(4) The VOC content of liquids pursuant to Subsection (c)(6) of this rule shall be determined in accordance with ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-73, General Techniques of Infrared Quantitative Analysis, E 168-67, or General Techniques of Ultraviolet Quantitative Analysis, E 169-63 or with EPA Test Method 24 (40 CFR 60, Appendix A) as it exists on (*date of adoption*) and ASTM Standard Test Method D 4457-85 for determination of dichloromethane and 1,1,1-trichloroethane in paints and coatings by direct injection in a gas chromatograph, as applicable.

(5) If an approved test method for identifying and quantifying an exempt compound specified in Subsection (c)(4) does not exist on (*date of adoption*), Material Safety Data Sheets (MSDS's) and/or manufacturer's specification sheets and raw materials purchase records shall be used to determine the presence and content of such exempt compound in the materials subject to this rule.

(6) The water content of coatings pursuant to Subsection (c)(18) of this rule shall be determined in accordance with ASTM Standard Test Method D 3792-86.

(h) **COMPLIANCE SCHEDULE**

(1) Any person operating existing equipment who is subject to the provisions of Subsection (d)(2) or electing to use control equipment to comply with the requirements of Subsections (d)(1) and/or (d)(5) shall meet the following increments of progress:

(i) By (*six months after date of adoption*), 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 (*twelve months after date of adoption*), issue purchase orders for the basic VOC control device and other long delivery time components necessary to comply with Section (e).

(iii) By (*twenty-one months after date of adoption*), be in compliance with Section (e).

(2) By (*three months after date of adoption*), any person who is subject to this rule and believes that he/she is not subject to the requirements of Subsection (d)(2) shall make an affirmative demonstration to the District that emissions from all coating and/or printing ink manufacturing operations at the stationary source, excluding equipment cleaning operations, are less than 100 pounds of VOC on every day of operation.

(3) Any person operating existing equipment who is subject to the provisions of Subsections (d)(1), (d)(3) and (d)(4) and is not electing to use control equipment to comply with the requirements of Subsection (d)(1) shall comply with the requirements of these subsections upon (*date of adoption*).

(4) Any person installing new equipment who is subject to the provisions of Subsection (d)(2) or electing to use control equipment to comply with the requirements of Subsections (d)(1) and/or (d)(5) shall comply with the provisions of Section (e) upon startup.

(5) Any person installing new equipment who is subject to the provisions of Subsections (d)(1), (d)(3), (d)(4) and (d)(5) and is not electing to use control equipment to comply with the requirements of Subsections (d)(1) and/or (d)(5) shall comply with the requirements of these subsections upon initial installation and startup.

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

Air Pollution Control Board
Brian P. Bilbray District 1
Dianne Jacob District 2
Pamela Slater District 3
Leon L. Williams District 4
John MacDonald District 5

Air Pollution Control Officer
R. J. Sommerville

NOTICE OF WORKSHOP
FOR DISCUSSION OF NEW PROPOSED RULE 67.19 COATINGS AND PRINTING INKS MANUFACTURING OPERATIONS

The San Diego County Air Pollution Control District will hold a second public workshop to consider the adoption of a new rule, Rule 67.19 - Coatings and Printing Inks Manufacturing Operations, and to discuss the results of the Socioeconomic Impact Assessment (SIA) for this rule conducted by the District. Comments regarding the proposed rule and the SIA may be submitted in writing before, or made at, the workshop which is scheduled as follows:

DATE: **Thursday, November 4, 1993**

TIME: **9:00 am**

PLACE: **Air Pollution Control District**
Conference Room 139
9150 Chesapeake Drive
San Diego CA

Rule 67.19 is a new rule designed to control emissions of volatile organic compounds (VOC's) from the manufacture of coatings and printing inks. Volatile organic compounds are ozone precursors. San Diego County has been designated as a serious ozone non-attainment area pursuant to the California Clean Air Act. The District is required to adopt all feasible measures to reduce emissions of ozone precursors. In addition, the District is mandated by the federal Clean Air Act Amendments of 1990 (FCAA) to adopt rules reflecting reasonably available control technology (RACT) for all major sources. These include facilities emitting 25 tons per year or more of VOC's.

Proposed Rule 67.19 will affect three facilities which manufacture coatings or printing inks in San Diego County. One of them is a major source of VOC emissions. Small facilities emitting less than 15.0 pounds per day of VOC from all coating and/or printing ink manufacturing operations will be exempt from the rule.

The first workshop for Rule 67.19 was held on July 19, 1991. Subsequently, the proposed rule was revised as a result of comments received from the paint and ink manufacturers, the Air Resources Board, and the Environmental Protection Agency. In addition, the rule has been revised to reflect the requirements of the FCAA.

Specifically, the proposed changes to new Rule 67.19 will:

- Require the installation of add-on control equipment for sources emitting 25 tons per year or more of VOC's, with an overall emission control efficiency of at least 90 percent. Previously, add-on control equipment was required for sources emitting more than 100 pounds per day.

- Revise equipment requirements for gap dimensions and openings on lids for mixing vats.
- Include additional options for the cleaning of coating and ink manufacturing equipment.
- Revise recordkeeping requirements (necessary to establish VOC emissions from coating and ink manufacturing operations and equipment cleaning) from daily records to calendar year records.
- Require daily records of add-on control equipment operating parameters.
- Revise the compliance schedule for installing add-on control equipment and enclosed cleaning systems.
- Clarify and update definitions.
- Revise and update test methods for determining compliance with the rule.

The District has prepared a Socioeconomic Impact Assessment of proposed Rule 67.19 as required by State law. It provides the emission reduction potential of the proposed rule and its estimated cost-effectiveness. The SIA also presents the range of probable costs to industry, including small business, the availability and cost-effectiveness of alternatives, and the impact of the rule on employment and the economy of the region.

If you would like a copy of the revised proposed Rule 67.19 or the Socioeconomic Impact Assessment, please call Juanita Ogata at (619) 694-8851 If you have any questions concerning the proposal, please call Natalie Zlotin at (619) 694-3312 or me at (619) 694-3303.

Richard J. Smith

RICHARD J. SMITH
Deputy Director

RJSm:NZ:jo
09/27/93

AIR POLLUTION CONTROL DISTRICT

Proposed Rule 67.19 is added to Regulation IV to read as follows:

RULE 67.19. COATINGS AND PRINTING INKS MANUFACTURING OPERATIONS

(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 ~~this rule and in compliance with~~ Section (d) of this rule shall not be subject to Rule 67.17. Manufacturing operations and equipment cleaning operations subject to this rule ~~and in compliance with the provisions of this rule~~ shall not be subject to Rule 66.

(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 ~~equipment~~ are less than an average of 15.0 pounds (6.8 kg) ~~on each~~ per day of operation for each calendar month, provided the owner or operator of the stationary source ~~such equipment~~ maintains ~~daily~~ monthly records necessary to establish average daily emission levels. These records shall be retained on site for at least three years and ~~shall be~~ made available to the District upon request. ~~For the purposes of this exemption, all process emissions, including those from equipment cleanup, shall be summed to determine daily emission rate.~~

(2) 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 paste inks.

(3) 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.

(c) DEFINITIONS

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

~~(1) "California Coastal Waters" means that area between the San Diego County coastline and a line starting at the intersection of a line joining:~~

~~34.0° N 120.5° W~~
~~and 33.0° N 119.5° W~~

~~and a line 33.7° W from the San Diego County line:~~

~~thence to 33.0° N 119.5° W~~
~~thence to 32.5° N 118.5° W~~

~~and ending at the California-Mexico border at the Pacific Ocean.~~

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

~~(3) "Coating or Printing Ink Disperser" means an equipment used to disperse coating or printing ink solids, including but not limited to any grinding mill, high speed dispersion mill or roller mill. The container used to hold the coating or printing ink during dispersion operations shall be considered as part of the disperser.~~

(2) ~~(4)~~ **"Exempt Compound"** means any of the following compounds: methylene chloride; 1,1,1-trichloroethane; trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (CFC-22), trifluoromethane (FC-23); trichlorotrifluoroethane (CFC-113); dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); dichlorotrifluoroethane (HCFC-123); tetrafluoroethane (HFC-134a); dichlorofluoroethane (HCFC-141b); chlorodifluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); ~~cyclic, branched, or linear, completely fluorinated alkanes, ethers and tertiary amines with no unsaturations; and sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.~~ 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;

and any other compound(s) listed as negligibly reactive by the U.S. Environmental Protection Agency.

(3) ~~(5)~~ **"Existing Equipment"** means any coating or printing ink manufacturing equipment for which a District Authority to Construct or Permit to Operate was issued before (*date of adoption*).

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

~~(7) "Grinding Mill" means a mill with cylindrical chambers containing grinding media such as balls, stones, pebbles, or sand that grind and disperse coating or printing ink solids.~~

~~(8) "High Speed Dispersion Mill" means a mixer with one or more blades that rotate at high speed in order to disperse coating or printing ink solids.~~

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

(6) ~~(9)~~ **"Manufacturing Operations"** means mixing, blending, and/or compounding, ~~and/or cleaning~~ 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) ~~(10)~~ **"New Equipment"** means any coating or printing ink manufacturing equipment for which an Authority to Construct was issued after (*date of adoption*).

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

(10)~~(12)~~ **"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.

~~(13) "Roller Mill" means a mill with horizontal rollers that grind and disperse coating or printing ink solids.~~

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

~~a unit or an aggregation of units of non-vehicular air contaminant emitting articles, machines, equipment or other contrivances, all of which are located on one property or adjoining properties under the same ownership or entitlement to use and operate. This includes any unit or aggregation of units in the California Coastal Waters off San Diego County.~~

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

(14)~~(16)~~ **"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 before application of add-on air pollution control equipment.

(16)~~(17)~~ **"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)~~(18)~~ **"Water-Based Coating"** means a water miscible or water reducible coating that contains more than 5 five percent of water by weight ~~in its volatile fraction~~.

(18)~~(19)~~ **"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 unless all mixing vats used for such manufacture are kept covered, except when adding raw materials, taking samples, 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. ~~For not more than 10 percent of the circumference, there shall be no gap greater than 1/8 inch in width between the lid and 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 raw materials or taking samples. 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

~~(ii)~~ (iii) ~~There are no holes, tears or openings in the lid, except~~ The lid may have a slit to allow clearance for insertion of a mixer shaft if so equipped. ~~The slit shall be~~

~~covered after insertion of the mixer, except to allow safe clearance for the mixer shaft.~~ The diameter of the ~~opening~~ slit in the lid for the mixer shaft shall be no more than ~~2~~ two inches greater than the diameter of the mixing shaft. 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) A person shall not ~~operate any coating or printing ink disperser at a stationary source emitting more than 100 pounds of VOC in any day of operation (45.4 kg/day), before control from all~~ conduct any coating and/or printing ink manufacturing operations, ~~excluding equipment cleaning operations,~~ unless VOC emissions from ~~the disperser~~ mixing vats used for such operations are vented to an air pollution control system which meets the requirements of Sections (e) and (h).

(3) Except as provided in Subsection (b)(2), a ~~A~~ person shall not transfer or allow the transfer of resins, coatings, printing inks or solvents containing VOC's into any stationary storage tank unless such tank is equipped with a submerged fill pipe.

(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 ~~24~~ 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 ~~shall be~~ made available to the District upon request. An unrecorded leak shall be considered a violation of this rule.

(5) ~~Effective (*six months after date of adoption*), a~~ 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 ~~a manufacturing equipment cleaning device~~ 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 ~~can be~~ 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 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.

~~In lieu of complying with the provisions of Subsection (d)(5)(i) or (d)(5)(ii), a person may elect to use an air pollution control system which meets the requirements of Sections (e) and (h).~~

(e) CONTROL EQUIPMENT

(1) A person subject to the provisions of Subsection (d)(2) ~~or electing to use control equipment to comply with the requirements of Subsections (d)(1) and/or (d)(5)~~ shall comply by using an air pollution control system which:

(i) Has been installed in accordance with an Authority to Construct; and

(ii) Includes an emission collection system which captures ~~at least 95 percent by weight of the VOC~~ organic gaseous emissions generated from coating and/or ink manufacturing operations, ~~the mixing vats, dispersers or equipment cleaning, as applicable,~~ including emissions associated with filling and emptying operations, and transports the captured emissions to the an air pollution control device; and

(iii) ~~Includes an air pollution control device which reduces captured VOC emissions by~~ Has an overall emissions control efficiency of at least ~~95~~ 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 Subsections ~~(e)(1)(ii) and~~ (e)(1)(iii).

(2) A person subject to the provisions of Subsection (e)(1) ~~of this rule~~ shall submit an Operation and Maintenance Plan for the ~~VOC~~ air pollution control device and emission collection system to the Air Pollution Control Officer for approval. Thereafter, the plan can

be modified, with 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 Subsections (e)(1)~~(ii) and (e)(1)(iii)~~; 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 ~~daily~~ records necessary to establish ~~daily~~ calendar year emission levels for all coating and/or printing ink manufacturing operations at the stationary source ~~for each coating or printing ink disperser~~. 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. ~~, the type and amounts of each ingredient containing VOC used, and the types and amounts of cleaning materials used~~.

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

~~(3) The recordkeeping requirements contained in Subsection (d)(4).~~

These records shall be retained on site for at least three years and ~~shall be~~ 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 (*date of adoption*). 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).

~~(1) The VOC content of cleaning materials subject to Subsection (d)(5)(i) of this rule shall be determined in accordance with ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-73, General Techniques of Infrared Quantitative Analysis, E 168-67, or General Techniques of Ultraviolet Quantitative Analysis, E 169-63.~~

(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 FR 33494, July 22, 1991.

~~(2)~~ (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. ~~Measurements of VOC emissions subject to Section (e) of this rule shall be conducted, using a protocol approved by the District, in accordance with~~ 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 (*date of adoption*), using a test protocol approved by the Air Pollution Control Officer, ~~and with EPA Capture Efficiency Test Method published in 55 FR 26865, June 29, 1990. An alternative method for determining capture efficiency may be used provided such method has been approved, in advance, by the Air Pollution Control Officer and U. S. Environmental Protection Agency for the specific processes being tested.~~

~~(3)~~ (4) Total vapor pressure of VOC in cleaning materials subject to Subsection (d)(5)(i) ~~of this rule~~ shall be calculated by using the District's "Procedure for Estimating the Vapor Pressure of a Solvent Mixture" as it exists on (*date of adoption*). 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 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.

~~(4)~~ (5) The VOC content of liquids pursuant to Subsection (c)(4) ~~(6)~~ and cleaning materials subject to Subsection (d)(5)(i) ~~of this rule~~ shall be determined in accordance with ~~ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-73, General Techniques of Infrared Quantitative Analysis, E 168-67, or General Techniques of Ultraviolet Quantitative Analysis, E 169-63 or with~~ EPA Test Method 24 or 24A (40 CFR 60, Appendix A), as applicable, as ~~it~~ they exists on (*date of adoption*). and ~~ASTM Standard Test Method D 4457-85 for determination of dichloromethane and 1,1,1-~~

~~trichloroethane in paints and coatings by direct injection in a gas chromatograph, as applicable.~~

~~(5) If an approved test method for identifying and quantifying an exempt compound specified in Subsection (c)(4)(3) does not exist on (*date of adoption*), Material Safety Data Sheets (MSDS's) and/or manufacturer's specification sheets and raw materials purchase records shall be used to determine the presence and content of such exempt compound in the materials subject to this rule.~~

(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 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.

~~(6)~~ (8) The water content of coatings pursuant to Subsection (c)(17) ~~(18) of this rule~~ 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 (*six months after date of adoption*).

(1) Any person operating existing equipment who is subject to the provisions of Subsection (d)(2), ~~or electing to use control equipment to comply with the requirements of Subsections (d)(1) and/or (d)(5)~~ shall meet the following increments of progress:

(i) By (*six months after date of adoption*), 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 (*twelve months after date of adoption*), issue purchase orders for the basic ~~VOC~~ control device and other long delivery time components necessary to comply with Section (e).

(iii) By (*twenty-one months after date of adoption*), demonstrate ~~be in~~ compliance with Section (e) and Subsection (d)(1).

(2) Any person operating existing equipment who is electing to use enclosed cleaning systems shall demonstrate compliance with Subsection (d)(5)(ii) or (d)(5)(iii) by (*twelve months after date of adoption*).

~~(4)~~ (3) Any person installing new equipment ~~who is~~ subject to ~~the provisions of Subsection (d)(2) or electing to use control equipment to comply with the requirements of Subsections (d)(1) and/or (d)(5)~~ this rule shall comply with the provisions of ~~Section (e)~~ this rule upon startup.

~~(2) By (*three months after date of adoption*), any person who is subject to this rule and believes that he/she is not subject to the requirements of Subsection (d)(2) shall make an affirmative demonstration to the District that emissions from all coating and/or printing ink manufacturing operations at the stationary source, excluding equipment cleaning operations, are less than 100 pounds of VOC on every day of operation.~~

~~(3) Any person operating existing equipment who is subject to the provisions of Subsections (d)(1), (d)(3) and (d)(4) and is not electing to use control equipment to comply with the requirements of Subsection (d)(1) shall comply with the requirements of these subsections upon (*date of adoption*).~~

~~(5) Any person installing new equipment who is subject to the provisions of Subsections (d)(1), (d)(3), (d)(4) and (d)(5), and is not electing to use control equipment to comply with the requirements of Subsections (d)(1) and/or (d)(5) shall comply with the requirements of these subsections upon initial installation and startup.~~