COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD
REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9 VAC 5 CHAPTER 40.
EXISTING STATIONARY SOURCES.

PART II.
Emission Standards.

ARTICLE 36.
Flexographic, Packaging Rotogravure,
and Publication Rotogravure Printing Lines (Rule 4-36).

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9 VAC 5-40-5060. Applicability and designation of affected facility.
[Revised text, effective 4/2/07**]**

A. Except as provided in subsections C, D, and E of this section, the affected facility to which the provisions of this article apply is each flexographic, packaging rotogravure, or publication rotogravure printing line which uses a substrate other than a textile.

B. The provisions of this article apply only to sources of volatile organic compounds in volatile organic compound emissions control areas designated in 9 VAC 5-20-206.

C. Exempted from the provisions of this article are flexographic, packaging rotogravure, and publication rotogravure facilities in the Northern Virginia Volatile Organic Compound Emissions Control Area whose potential to emit is less than 25 tons per year of volatile organic compounds, provided the emission rates are determined in a manner acceptable to the board. All volatile organic compound emissions from printing inks and cleaning solutions shall be considered in applying the exemption levels specified in this subsection.

D. Exempted from the provisions of this article are flexographic, packaging rotogravure, and publication rotogravure facilities in the Richmond and Hampton Roads Volatile Organic Compound Emissions Control Areas all volatile organic compound emissions control areas, other than the Northern Virginia Volatile Organic Compound Emissions Control Area, whose potential to emit is less than 100 tons per year of volatile organic compounds, provided the emission rates are determined in a manner acceptable to the board. All volatile organic compound emissions from printing inks and cleaning

solutions shall be considered in applying the exemption levels specified in this subsection.

E. The provisions of this article do not apply to the following:

1. Printing processes used exclusively for determination of product quality and commercial acceptance provided:

a. The operation is not an integral part of the production process;

b. The emissions from all product quality printing processes do not exceed 400 pounds in any 30 day period; and

c. The exemption is approved by the board.

2. Lithography or letterpress printing.

3. Electrostatic duplication.

9 VAC 5-40-5070. Definitions.

A. For the purpose of these regulations and subsequent amendments or any orders issued by the board, the words or terms shall have the meaning given them in subsection C of this section.

B. As used in this article, all terms not defined here shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

C. Terms defined.

"Carbon adsorption system" means a device containing activated carbon as the adsorbent material, an inlet and outlet for exhaust gases, and a system to regenerate the saturated adsorbent. The carbon adsorption system must provide for the proper disposal or reuse of all volatile organic compounds in the adsorbate.

"Compliant ink or surface coating" means an ink or surface coating conforming to the definition of a high-solids, low-volatile organic compound or a waterborne ink or surface coating.

"Cleaning solutions" means any liquid used to remove ink and debris from the operating surface of a printing press and its parts.

"Electrostatic duplication" means a process using a plate or takeoff sheet that is electrically charged to attract developer to the image area only.

"Flexographic printing" means the application of words, designs or pictures by a rubber or elastomeric image carrier in which the image area is raised above the nonimage area.

"High solids ink or surface coating" means an ink or surface coating which contains 60% or more nonvolatile compounds by volume.

"Letterpress printing" means a printing process which uses raised image transfer elements fixed upon a metal backing.

"Lithographic printing" means a planographic printing process in which the image and nonimage areas are chemically differentiated with the image area being oil-receptive and the nonimage area being water-receptive.

"Low solvent ink or surface coating" means an ink or surface coating which contains not more than 0.5 pounds of volatile organic compounds per pound of nonvolatile compounds and is used on a packaging rotogravure printing or flexographic printing press.

"Non-compliant ink or surface coating" means an ink or surface coating which does not conform to the definition of a high-solids, low-volatile organic compound or waterborne ink or surface coating.

"Packaging rotogravure printing" means an intaglio printing process in which the ink is transferred from minute etched wells on an image carrier, typically a cylinder, to paper, paper board, metal foil, plastic film and other substrates, which are, in subsequent operations, formed into containers and labels for articles to be sold.

"Printing" means a photomechanical process in which a transfer of text, designs, and images occurs through contact of an image carrier with a substrate.

"Printing line" means all of the equipment between a web feed input and the finished rolled or cut and stacked product wherein printing ink or a combination of printing inks and surface coatings are applied, dried, or cured and which is subject to the same emission standard. Such equipment may include decks, stations, press units, devices, ink stations, and any other equipment which applies, conveys, dries, or cures surface inks or surface coatings. Such equipment may include but is not limited to flow coaters, flashoff areas, air dryers, drying areas, and ovens. It is not necessary for a printing line to have an oven, flashoff area, or drying area to be included in this definition.

"Printing process" means any operation or system where printing ink or a combination of printing ink and surface coating is applied, dried or cured and which is subject to the same emission standard. May include any equipment which applies, conveys, dries or cures inks or surface coatings, including, but not limited to, flow coaters, flashoff areas, air dryers, drying areas and ovens. It is not necessary for a printing process to have an oven, flashoff area or drying area to be included in this definition.

"Publication rotogravure printing" means an intaglio printing process in which the ink is transferred from minute etched wells on an image carrier, typically a cylinder, to paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements or any other types of printed materials not included under the definition of packaging rotogravure printing.

"Surface coating" means all non-ink liquids and liquid-solid mixtures containing volatile organic compounds which are applied to the substrate by printing units.

"Waterborne ink or surface coating" means an ink or surface coating whose volatile portion consists of 75% or more by volume of water and 25% or less by volume of volatile organic compounds.

"Web" means a continuous roll of printing substrate.

9 VAC 5-40-5080. Standard for volatile organic compounds.

A. No owner or other person shall use or permit the use of any packaging

rotogravure, publication rotogravure or flexographic printing line employing an ink or surface coating containing volatile organic compounds unless:

1. The ink or surface coating, as it is applied to the substrate, is a waterborne ink or surface coating;

2. The ink or surface coating, as it is applied to the substrate, is a high-solids ink or surface coating;

3. The ink or surface coating, as it is applied to the substrate, is a low-solvent ink or surface coating; or

4. The owner installs and operates an emission control system which achieves the emission reductions specified below in subsection A 4 a through c of this section. The reduction in volatile organic compound emissions from each printing line shall be at least:

a. 75% by weight of volatile organic compounds of all non-compliant inks and surface coatings where a publication rotogravure printing process is employed;

b. 65% by weight of volatile organic compounds of all non-compliant inks and surface coatings where a packaging rotogravure printing process is employed; or

c. 60% by weight of volatile organic compounds of all non-compliant inks and surface coatings where a flexographic printing process is employed.

B. All units in a machine which has printing units and coating or laminating units shall be subject to this article and exempt from Article 31 (9 VAC 5-40-4310 et seq.) of 9 VAC 5 Chapter 40.

9 VAC 5-40-5090. Standard for visible emissions.

The provisions of Article 1 (9 VAC 5-40-60 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Visible Emissions and Fugitive Dust/Emissions, Rule 4-1) apply.

9 VAC 5-40-5100. Standard for fugitive dust/emissions.

The provisions of Article 1 (9 VAC 5-40-60 et seq.) of 9 VAC 5 Chapter 40 (Emission Standards for Visible Emissions and Fugitive Dust/Emissions, Rule 4-1) apply.

9 VAC 5-40-5110. [Not in SIP]

9 VAC 5-40-5120. [Not in SIP]

9 VAC 5-40-5130. Compliance.

A. The provisions of 9 VAC 5-40-20 (Compliance) apply.

B. The emission standards in 9 VAC 5-40-5080 A apply ink by ink and coating by coating or to the volume weighted average of inks or surface coatings where the inks and surface coatings are used on a single printing line and the inks and surface coatings are of the same type or perform the same function.

C. Inks and surface coatings meeting the criteria in 9 VAC 5-40-5080 A 1 through 3 (compliant inks and coatings) may be used on the same printing line with inks and surface

coatings subject to the control requirements in 9 VAC 5-40-5080 A 4 (non-compliant inks and coatings) to meet the control requirements of 9 VAC 5-40-5080 A 4 without the installation of an add-on control system. When this is the case, compliance is determined by credits generated by the weight of volatile organic compounds by which the compliant inks or coatings are less than the applicable criteria in 9 VAC 5-40-5080 A 1 through 3. Compliance is demonstrated if the total credits in pounds of volatile organic compounds is equal to or greater than the total weight of volatile organic compound reduction required of the non-compliant inks over a time period not exceeding 24 hours.

D. Compliance with the requirements of 9 VAC 5-40-5130 B and C and the emission standards in 9 VAC 5-40-5080 A shall apply as follows:

1. a. To each printing line; and

b. To parts of a printing line individually designated by the owner; or

2. To multiple printing lines controlled by a single solvent recovery system. For this option, the most stringent standard applicable to any of the printing lines is applied to all the lines controlled by the same solvent recovery system.

E. The emission standards in 9 VAC 5-40-5080 A shall apply to each successive compliance averaging period. This compliance averaging period shall not exceed:

1. 24 hours; or

2. The minimum compliance averaging period acceptable to the board, provided that:

a. The owner demonstrates to the satisfaction of the board that an averaging period of 24 hours or less does not adequately represent the reduction of volatile organic compound emissions over the same time period because of the physical or operational characteristics of an add-on control system; and

b. The owner demonstrates to the satisfaction of the board the minimum compliance averaging period which adequately represents the reduction of volatile organic compound emissions; and

c. The owner determines compliance for each day or partial day of operation using the minimum compliance averaging period acceptable to the board.

9 VAC 5-40-5140. Test methods and procedures.

A. The provisions of 9 VAC 5-40-30 (Emission Testing) apply.

B. Testing for compliance with the emission standards in 9 VAC 5-40-5080 A 4 shall be performed using the applicable methods and procedures specified in 9 VAC 5-20-121.

9 VAC 5-40-5150. Monitoring.

The provisions of 9 VAC 5-40-40 (Monitoring) apply.

9 VAC 5-40-5160. Notification, records and reporting.

The provisions of 9 VAC 5-40-50 (Notification, Records and Reporting) apply.

9 VAC 5-40-5170. Registration.

The provisions of 9 VAC 5-20-160 (Registration) apply.

9 VAC 5-40-5180. Facility and control equipment maintenance of malfunction.

The provisions of 9 VAC 5-20-180 (Facility and Control Equipment Maintenance or Malfunction) apply.

9 VAC 5-40-5190. Permits.

A permit may be required prior to beginning any of the activities specified below and the provisions of 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) and 9 VAC 5 Chapter 80 (9 VAC 5-80-10 et seq.) may apply. Owners contemplating such action should contact the appropriate regional office for guidance.

1. Construction of a facility.
2. Reconstruction (replacement of more than half) of a facility.
3. Modification (any physical change to equipment) of a facility.
4. Relocation of a facility.
5. Reactivation (restart-up) of a facility.
6. Operation of a facility.