

Title 26  
DEPARTMENT OF THE ENVIRONMENT  
Subtitle 11 AIR QUALITY

**Chapter 19 Volatile Organic Compounds from Specific Processes**

**.18 Control of Volatile Organic Compound Emissions from Screen Printing and Digital Imaging**

A. In this regulation, the following terms have the meanings indicated:

(1) "Acid/etch resist ink" means a material or compound applied to portions of a product, usually in a pattern, before etching, to protect the covered portions from the action of the chemical solution that removes the surface of the product being etched.

(2) "Anoprint ink" means a dye or compound that is screen printed on unsealed anodized aluminum before the process of sealing the anodic coating, thus trapping the dye or compound in the anodic coating.

(3) "Back-up coating" means a coating applied to the nondecorated side of a plywood sign.

(4) Clear Coating.

(a) "Clear coating" means a transparent coating usually applied over a pigmented or colored coat to give improved gloss or protection to the colored coat.

(b) "Clear coating" does not mean overprint varnish that is used in the cosmetic industry and that is subject to FDA formulation requirements.

(5) "Conductive ink" means an ink for the screen printing of electronic circuits or other conductive patterns that permit electric current to flow through the printed line or pattern.

(5-1) "Digital imaging" means a printer that uses a computer-driven machine to transfer an electronically stored image onto the substrate through the use of inks, toners, or other similar color graphic materials. Application methods include ink jet, electrostatic, and spray jet technologies.

(6) "Electroluminescent ink" means a transparent conductive coating, phosphor, opaque conductive, or similar compound that is screen printed with the purpose of converting an electrical current directly into light.

(7) "Exterior illuminated sign" means a plastic sign that can be illuminated for its visibility at night.

(8) "Haze removal" means the final cleaning stage or process to remove ink residue from a used screen.

(9) "Ink removal" means removal of excess ink from a used screen.

(10) "Maximum VOC content" means the maximum content of volatile organic compounds less exempt solvents and water.

(10-1) "Overprint varnish" means a FDA-regulated coating that is used to prevent lipstick from adhering to the plastic film on a sample card sold to retail stores.

(11) "Plastic card manufacturing installation" means screen printing, lithographic printing, drying ovens, adhesive application, and laminating equipment used to produce a credit card or similar plastic card product.

(12) "Plywood sign coating" means a coating applied to plywood sheeting in the preparation of exterior signs.

(13) "Screen printing" means a printing method in which ink, clear coating, or adhesive is distributed through a tightly stretched fabric to which a refined form of stencil has been applied. The stencil and mesh openings determine the form and dimensions of the imprint.

(14) "Screen printing installation" means equipment including printing application equipment, flash-off areas, and dryers used to perform screen printing.

(15) "Screen reclamation" means removal of stencil or ghost image from a used screen.

(16) "Specialty inks" means acid/etch resist, anoprint, conductive, and electroluminescent inks.

(17) "Untreated sign paper" means a paper used in screen printing to prepare a temporary, light-weight sign or poster such as grocery store signs that are sensitive to water and water-based inks.

## B. Applicability.

(1) This regulation applies to a person, owner, or operator who:

(a) Performs screen printing on substrates other than untreated sign paper and causes VOC emissions from all screen printing at the premises of 20 pounds or more per day excluding VOC emissions from printing on untreated sign paper;

(b) Operates a plastic card manufacturing installation at a premises that

causes VOC emissions of 20 pounds or more per day from all plastic card manufacturing installations at the premises;

(c) Coats plywood used for signs at a premises that causes VOC emission of 20 pounds or more per day from all plywood sign coating at the premises;

(d) Performs screen printing on untreated sign paper at a premises that causes VOC emissions of 20 pounds or more per day from all printing on untreated sign paper at the premises; or

(e) Performs digital imaging at a premises that causes VOC emissions of 20 pounds or more per day from all digital imaging at the premises.

(2) Adhesives associated with screen printing operations are subject to the requirements in Regulation .15 of this chapter.

### C. General Requirements for Screen Printing.

(1) A person who owns or operates a screen printing installation subject to this regulation may not cause or permit the discharge of VOC into the atmosphere, unless the following requirements are met:

(a) For overprint varnish on any substrate, the maximum VOC content, as applied, may not exceed 6.03 pounds of VOC per gallon;

(b) For screen printing or clear coating on any substrate other than untreated sign paper, the maximum VOC content of any ink or clear coating, as applied, may not exceed 3.3 pounds of VOC per gallon (396 grams per liter);

(c) For screen printing on untreated sign paper, the maximum VOC content of any ink, as applied, may not exceed 5.6 pounds of VOC per gallon; and

(d) For screen printing using specialty inks, the maximum VOC content of any ink may not exceed the following:

Ink	Pounds Per Gallon	Grams Per Liter
(i) Acid/etch resist	3.3	396
(ii) Anoprint	3.1	372
(iii) Conductive	8.0	960
(iv) Electroluminescent	8.0	960

(2) Control of VOC Emissions from Ink and Haze Removal and Screen Reclamation. A person may not cause or permit the discharge of VOC into the atmosphere from the use of any ink or haze removal and screen reclamation product unless the VOC content of the ink removal or reclamation product is less than or equal to the following:

Product	Pounds Per Gallon	Grams Per Liter
(a) Screen reclamation	1.0	120
(b) Ink removal	3.3	390
(c) Haze removal	4.0	480

(3) Use of Control Devices. A person subject to this regulation is in compliance with the requirements of §C(1) of this regulation if the person installs and uses a control device that reduces emissions from the screen printing dryer by not less than 90 percent overall.

D. General Requirements for Plywood Sign Coating. A person who owns or operates a plywood sign coating operation subject to this regulation may not cause or permit the discharge of VOC into the atmosphere from any plywood sign coating unless the VOC content of the coating, as applied, is less than or equal to the following:

Coating	Pounds Per Gallon	Grams per Liter
(1) Back-up	1.0	120
(2) Prime	1.5	180
(3) Main	2.5	300
(4) Clear	3.3	396

E. General Requirements for Plastic Card Manufacturing Installations. A person who owns or operates a plastic card manufacturing installation subject to this regulation shall meet the following:

(1) The VOC content of any ink as applied may not exceed 4.0 pounds per gallon (479 grams per liter);

(2) The isopropyl alcohol content of the fountain solution used in any lithographic printing on a plastic card may not exceed 8.5 percent; and

(3) If isopropyl alcohol is used in the fountain solution, the fountain solution shall be refrigerated to 55F or less and shall be monitored by a temperature indicator mounted on the tray holding the fountain solution.

F. General Requirements for Digital Imaging. A person who owns or operates digital imaging that is subject to this regulation may not cause the discharge of VOC emissions into the

atmosphere in excess of 100 pounds on any day from all digital printing at the premises.

G. Record Keeping. A person subject to this regulation shall maintain the following records for not less than 3 years, and make the records available to the Department upon request:

(1) The total monthly consumption of inks, coatings, cleanup materials, and any other materials containing VOC used in conjunction with screen printing substrates other than untreated sign paper;

(2) The total monthly consumption of inks, coatings, cleanup materials, and any other materials containing VOC used in conjunction with screen printing on untreated sign paper;

(3) The VOC content of each ink, coating, cleanup material, or any other material containing VOC that is used at the premises; and

(4) For plastic card manufacturing installations, the amount of isopropyl alcohol used each month.