

**TITLE 26 - DEPARTMENT OF THE ENVIRONMENT**

**SUBTITLE 11 - AIR QUALITY**

**CHAPTER 19 - Volatile Organic Compounds from Specific Processes**

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**.11 Lithographic and Letterpress Printing.**

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

(1) "Alcohol" means an organic compound in which a hydroxyl group is bound to a carbon atom of an alkyl or substituted alkyl group and having the general formula  $C_nH_{(2n+1)}OH$ .

(2) "Alcohol substitute" means a material used in a fountain solution in place of alcohol.

(3) "Cleaning solution" means a mixture of water, chemicals, and/or additives used for cleaning blanket, roller, plate, metering roller, impression cylinder, rubber rejuvenators, press, press parts, or to remove dried ink from areas around a press.

(4) "Fountain solution" means a mixture of water, chemicals, and additives which reduces the surface tension of the water and wets the non-image areas so that the ink is maintained within the image areas.

(5) "Heatset" means any operation in which heat is required to evaporate ink oils from the printing ink, excluding ultraviolet (UV) and electron beam curing.

(6) "Letterpress printing" means printing using raised image transfer elements fixed upon a metal backing.

(7) "Lithographic printing" means printing by the transfer of patterns or images from a material processed to selectively absorb ink and water.

(8) "Sheet-fed printing" means a printing operation in which individual sheets of substrate are fed to the press sequentially.

(9) "Web printing" means a continuous printing operation in which a roll of paper is used as the printing substrate.

B. Exemptions.

(1) Printing on fabric, metal, or plastic is exempt from this regulation.

(2) Heatset presses used for book printing and heatset presses with a maximum web width of 22 inches are exempt from §E of this regulation.

(3) VOC emissions from materials used to clean printing equipment are excluded when determining the applicability of §D of this regulation.

C. Requirements for Sheet-Fed Lithographic Printing Press. A person may not operate a sheet-fed lithographic printing press with a cylinder width of 18 inches or greater or with a sheet size greater than 11 inches by 17 inches where the fountain solution contains alcohol unless:

- (1) The fountain solution is refrigerated to maintain a temperature of less than 55°F;
- (2) A temperature indicator is used to monitor the fountain solution temperature; and
- (3) The fountain solution contains less than 8.5 percent alcohol by weight.

D. Requirements for Lithographic Web Printing.

(1) A person who owns or operates a non-heatset lithographic web printing press shall use a fountain solution which:

- (a) Is limited to no more than 5 percent VOC content by weight as applied; and
- (b) Does not contain alcohol.

(2) A person who owns or operates a heatset lithographic web printing press located at a premises from which the actual VOC emissions from all lithographic web printing presses are less than 100 pounds per day shall use a fountain solution which:

- (a) Is limited to no more than 5 percent VOC content by weight as applied; and
- (b) Does not contain alcohol.

(3) A person who owns or operates a heatset lithographic web printing press located at a premises from which the actual VOC emissions from all lithographic web printing presses are 100 pounds or more per day shall:

(a) Use a fountain solution that meets the requirements of §D(2)(a) and (b) of this regulation; and

(b) Operate the press only if the dryer exhaust is ducted to an air pollution control device (APCD) that is constructed, operated, and maintained to achieve an overall VOC control efficiency of 90 percent or more.

E. Requirements for Heatset Lithographic Presses and Heatset Letterpresses with a Potential to Emit 25 Tons or More per Year. A person who owns or operates a heatset lithographic press or

heatset letterpress with a potential to emit VOC of 25 tons or more per year prior to controls shall operate the press only if the dryer associated with the press is:

(1) Constructed, operated, and maintained at a negative pressure relative to the press room; and

(2) Ducted to an APCD that has:

(a) An outlet VOC concentration of 20 parts per million by volume (expressed as hexane on a dry basis) or less; or

(b) An overall VOC control efficiency of:

(i) 90 percent or more if the APCD was installed before January 1, 2012;  
or

(ii) 95 percent or more if the APCD was installed on or after January 1, 2012.

#### F. Requirements for Cleaning Materials.

(1) A person who owns or operates a lithographic press or letterpress shall comply with this section.

(2) A person subject to this regulation may use up to a total of 110 gallons per calendar year of cleaning solutions at a premises without regard to VOC content.

(3) A person subject to this regulation that uses any cleaning solution at a premises excluding the 110 gallons per calendar year specified in §F(2) shall ensure that the additional cleaning solution:

(a) Has a composite vapor pressure of less than 10 mm of mercury at 68° F (20°C); or

(b) Contains less than 70 percent VOC by weight.

#### G. Control Device Testing.

(1) A control device shall be tested in accordance with the requirements of COMAR 26.11.19.02; and

(2) The negative dryer pressure and 100 percent emissions capture efficiency may be demonstrated using an air flow direction indicator, such as a smoke stick, aluminum ribbons, or differential pressure gauge.

H. Record keeping. A person subject to this regulation shall maintain records on site including the following information:

- (1) The fountain solution formulations;
- (2) The VOC content, in percent VOC by weight, of the fountain solutions;
- (3) The temperature of the press fountain solutions for lithographic printing presses using alcohol in the fountain solution; and
- (4) The quantity of cleaning solutions used and their vapor pressure or percentage VOC concentration by weight.