

These material handling requirements are based on the general organic compound requirements in NR 419. By continuing to meet the thresholds for Very Small and Small printers, there are no other emissions standards you will be required to meet.

- keep shop towels soiled with inks and clean-up solutions in closed containers when not in use
- cover fountain solution mixing and storage tanks except when adding or draining solution
- all VOC-containing materials and waste must be contained to prevent evaporation (i.e., store in closed container)

#### Cold cleaning operations:

- each cold cleaning unit is exempt from VOC requirements if less than 1.5 gallons per day of solvent are added
  - to determine if exempt, take the number of gallons added and divide by the number of days since the last addition of solvent
- if not exempt, each cold cleaning unit must meet certain design and operating requirements (refer to the Cyan Ink room for detailed requirements)

### **Small Lithographic Printers**

New work practice requirements, effective November 1, 2009, apply to all lithographic printers that fall into the Small Printer category, and larger, and are located in the following counties: Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha.

The work practice standard requires a printer to:

- store all solvents, solvent solutions and any applicator moistened with solvents or solvent solutions that are used in cleaning operations related to lithographic printing in covered non-absorbent, non-leaking containers, except when filling or emptying the container.

Also, VOC emissions standards apply to **small** printers as of May 1, 2010. The limits are shown in the **VOC Emissions Standards for Small and Medium Lithographic Printers** table shown on page A-11.

The following operations are exempt from the fountain solution requirements in that table:

- any lithographic press with a total fountain solution reservoir of less than one gallon
- sheet-fed presses with a maximum sheet size of up to 11 inches by 17 inches
- printing of books on any heatset lithographic press
- heatset lithographic presses with a maximum web width of up to 22 inches

In addition, you may use of up to 110 gallons of blanket or roller wash, on a 12-consecutive month rolling basis, above the clean-up solvent limits.

A Return to Compliance Plan (RTCP) forms found within this workbook package.

|   |   |  |
|---|---|--|
|  | <p><b>Question A.3:</b><br/>Are you meeting all VOC emission requirements listed in this section?</p> | <p><input type="checkbox"/> Yes. Very Small and Small Printers skip to <u>Requirements for Fuel Combustion</u>, unless you determined your size category by calculating actual emissions and have a control device.</p> <p><input type="checkbox"/> No. Submit RTCP.</p> |
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| <b>VOC Emission Standards for <u>Small AND Medium</u> Lithographic Printers (beginning May 1, 2010)</b> |   |   |
|---|---|---|
| <b>Material</b>   | <b>Non-heatset Offset Lithographic printing</b>   | <b>Heatset Web Offset Lithographic printing</b>   |
| Fountain Solution   | <u>Webfed presses:</u><br>≤ 5% VOC by weight (bw) and no restricted alcohol<br><br><u>Sheetfed Presses:</u><br>≤ 5% VOC bw if not refrigerated<br>≤ 8.5% VOC bw if refrigerated | ≤ 1.6% VOC bw if not refrigerated<br>≤ 3% VOC bw if refrigerated<br>≤ 5% VOC bw and no restricted alcohol |
| Press clean-up solvents   | ≤ 30% VOC bw<br>Or ≤10 mm Hg vapor pressure at 68°F   | ≤ 30% VOC bw<br>Or ≤10 mmHg vapor pressure at 68°F  |

### **Medium Printers**

Medium printers must meet the standards above for material handling, cold cleaning operations and the new work practice standards. In addition, emission standards in all **three** VOC Emission Standards tables on pages A-11 and A-12, must be met.

Emission standards for Medium printers are specific to each process:

- non-heatset offset lithographic printing
- heatset web offset lithographic printing
- gravure and flexographic printing
- screen printing
- digital printing
- letterpress printing

If your printing operations include two or more types of printing, the performance standards in the VOC Standards Tables apply to **each** of the corresponding operations.

All calculations necessary to determine whether you meet the VOC Emission Standards can be found in the Cyan Ink Room section of this workbook. The calculation examples include fountain solution averaging and material VOC content and vapor pressures.

### **Exemption from Standards**

Notwithstanding the limits in the table, you may use:

- up to 55 gallons combined of inks, coatings, or roller/blanket wash with a higher VOC content or vapor pressure than specified, in any 12-month period
- up to 165 gallons of roller/blanket wash with higher VOC or vapor pressure if printing on plastic
- **up to 110 gallons of blanket or roller wash, on a 12-consecutive month rolling basis, above the clean-up solvent limits**

**In addition, the exemptions from fountain solution limits listed on A-10 for small printers apply to Medium printers as well.**

**NOTE:** Fountain solution standards may be calculated on a monthly rolling basis. See the example calculation in the **Cyan Ink Room**.

Calculation examples in the **Cyan Ink Room** section of this workbook include fountain solution averaging and material VOC content and vapor pressures.

| <b>VOC Emission Standards for Medium Lithographic Printers</b> |  |   |
|--|--|---|
| <b>Material</b>  | <b>Non-heatset Offset Lithographic printing</b>  | <b>Heatset Web Offset Lithographic printing</b>   |
| Printing Ink   | Not applicable   | ≥ 90% destruction of VOCs, or outlet concentration of ≤ 20 ppmv as Carbon<br><b>OR</b><br><u>Devices installed after May 1, 2010: ≥ 95% destruction of VOCs, or outlet concentration of ≤ 20 ppmv as Carbon</u> |
| Fountain Solution  | <u>Webfed presses:</u><br>≤ 5% VOC by weight (bw) and no restricted alcohol<br>≤ 13.5% VOC bw if printing on metal or plastic and refrigerated<br><br><u>Sheetfed Presses:</u><br>≤ 5% VOC bw if not refrigerated<br>≤ 8.5% VOC bw if refrigerated<br>≤ 13.5% VOC bw if printing on metal or plastic, contains restricted alcohol and refrigerated | ≤ 1.6% VOC bw if not refrigerated<br>≤ 3% VOC bw if refrigerated<br>≤ 5% VOC bw and no restricted alcohol<br>≤ 13.5% VOC bw if printing on metal or plastic, contains restricted alcohol and refrigerated       |
| Press clean-up solvents  | ≤ 30% VOC bw OR ≤10 mm Hg vapor pressure at 68°F   | ≤ 30% VOC bw OR ≤10 mmHg vapor pressure at 68°F   |

| <b>VOC Emission Standards for Other Medium Printers</b> |  |  |
|---|--|--|
| <b>Material</b>   | <b>Gravure, flexographic printing</b>  | <b>Screen printing</b>   |
| Printing Ink  | (1) Volatiles in ink <25% VOC by volume (bv) and ≥ 75% bv of water; OR<br><br>(2) ink, minus water, ≥ 60% nonvolatile material by volume; OR<br><br>(3) ≥ 90% destruction of VOCs bw, and overall control ≥ 75% for publication rotogravure, ≥ 65% for packaging rotogravure, or ≥ 60% for flexographic. | ≤ 400 g VOC/l<br>(3.3 lbs VOC/gal)                                     |
| Special Purpose Inks and Coatings                       | Not applicable   | ≤ 800 g VOC/l<br>(6.7 lbs VOC/gal)                                     |
| Other Coatings  | Not applicable   | ≤ 400 g VOC/l<br>(3.3 lbs VOC/gal)                                     |
| Screen reclamation activities                           | Not applicable   | ≤ 0.050 pounds VOC per square foot of screen reclaimed, averaged daily |