

Facility ID: 1431320434 Issuance type: Final State Permit To Operate

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In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1431320434 Emissions Unit ID: K003 Issuance type: Final State Permit To Operate

[Go to the top of this document](#)

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
flexographic printing press	OAC rule 3745-31-05 (PTI 14-4819)	4.68 lbs/hr of volatile organic compound (VOC)* 10.27 tons per year (TPY) of VOC 2.64 lbs/hr of ammonia* 5.83 TPY of ammonia The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(Y)(1)(a). See term and condition A.2.b below. * The hourly emission limitations specified above are based upon the emissions unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits. See term and condition A.2.a below.
	OAC rule 3745-21-09(Y)(1)(a)	

2. Additional Terms and Conditions

- (a) The VOC content, as applied, of the coatings and inks employed in this emissions unit shall not exceed the following limitation:
 - a. forty percent (40%) VOC by volume of the coating and ink, excluding water and exempt solvents; or
 - b. twenty-five percent (25%) VOC by volume of the volatile matter in the coating and ink. The following coating and cleanup material VOC weight percentages and ammonia weight percentages shall not be exceeded:

Material VOC % by Weight Ammonia % by Weight

Water-based inks 9.01 3.3
Water-based adhesives 3.5 3.3
Cleanup material 1.0 3.3

B. Operational Restrictions

1. The following coating and cleanup material usages shall not be exceeded:

Material Pounds/Year
Water-based inks 152,820
Water-based adhesives 190,475
Cleanup material 10,000

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for this emissions unit:
 - a. the company identification of the ink, adhesive and cleanup material employed;

- b. the amount, in pounds, of each ink, as applied;
 - c. the amount, in pounds, of each adhesive, as applied;
 - d. the amount, in pounds, of each cleanup material employed;
 - e. the percent VOC by volume of each coating and ink (excluding water and exempt solvents), as applied, or the percent VOC by volume of the volatile matter in the coating and ink [calculated in accordance with the equation(s) specified in paragraph (B)(8) of OAC rule 2745-21-10 using equation CVOC,5 (for coating and ink) or equation CVOC,6 (for volatile matter)];
 - f. the VOC content of each ink, as applied, in percent by weight;
 - g. the VOC content of each adhesive, as applied, in percent by weight;
 - h. the VOC content of each cleanup material employed, in percent by weight;
 - i. the ammonia content, in percent by weight, of each ink, adhesive and cleanup material employed;
 - j. the total VOC emissions from all inks, adhesives and clean-up materials employed, in pounds [summation of (b x f/100%) for all inks, plus the summation of (c x g/100%) for all adhesives, plus the summation of (d x h/100%) for all cleanup materials employed]; and
 - k. the total ammonia emissions, in pounds [summation of (b x i/100%) for all inks, plus the summation of (c x j/100%) for all adhesive materials, plus the summation of (d x k/100%) for all cleanup materials].
2. The permittee shall maintain annual records of the following information for this emissions unit:
- a. the total amount of ink, in pounds, as applied (the summation of C.1.b for all months during the calendar year);
 - b. the total amount of adhesive, in pounds, as applied (the summation of C.1.c for all months during the calendar year);
 - c. the total amount of cleanup material, in pounds, employed (the summation of C.1.d for all months during the calendar year);
 - d. the total annual VOC emissions, in TPY (the summation of C.1.j for all months during the calendar year, divided by 2000); and
 - e. the total annual ammonia emissions, in TPY (summation of C.1.k for all months during the calendar year, divided by 2000).
3. The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxics Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutants:

Pollutant: Ammonia
 TLV (ug/m3): 17,410
 Maximum Hourly Emission Rate (lbs/hr): 1.15
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 214
 MAGLC (ug/m3): 414.5

Pollutant: Vinyl Acetate
 TLV (ug/m3): 35,210
 Maximum Hourly Emission Rate (lbs/hr): 1.51
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 279
 MAGLC (ug/m3): 838

Pollutant: Monoethanolamine
 TLV (ug/m3): 7,490
 Maximum Hourly Emission Rate (lbs/hr): 0.2975
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 55.12
 MAGLC (ug/m3): 178

Pollutant: Styrene
 TLV (ug/m3): 85,000
 Maximum Hourly Emission Rate (lbs/hr): 0.035
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 6.5
 MAGLC (ug/m3): 2,024

Pollutant: Ethyl Acrylate
 TLV (ug/m3): 20,000
 Maximum Hourly Emission Rate (lbs/hr): 0.0077
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.0077

Concentration (ug/m3): 1.3
MAGLC (ug/m3): 476

Pollutant: Isopropyl Alcohol
TLV (ug/m3): 983,067
Maximum Hourly Emission Rate (lbs/hr): 1.39
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 257.4
MAGLC (ug/m3): 23,406

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the "Air Toxics Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
If the permittee determines that the "Air Toxics Policy" will be satisfied with the above changes, Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect and record the following information when it conducts evaluations to determine that the changed emissions unit will satisfy the "Air Toxics Policy":

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxics Policy"; and

c. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxics Policy" for the change.

D. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any monthly record showing the VOC content, in percent by weight and/or volume, exceeds the applicable limitations specified in Section A.2 of this permit. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 30 days following the end of the calendar month.
2. The permittee shall submit annual reports that specify the total VOC emissions (in TPY) and ammonia emissions (in TPY) from this emissions unit and the total amounts (in pounds) of ink, adhesive, cleanup material employed for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the hourly VOC emission limitation, hourly ammonia emission limitation, annual VOC emission limitation, annual ammonia emission limitation and material usage limitation shall be determined as follows:

a. Emission Limitation: 4.68 lbs of VOC/hour

Applicable Compliance Method: Compliance with the hourly emission limit has been determined by multiplying the maximum ink usage rate (lbs/hour) by the actual VOC content in weight % and dividing by 100%, plus the maximum adhesive usage rate (lbs/hour) multiplied by the actual VOC content in weight % and dividing by 100%, plus the maximum cleanup compound usage rate (lbs/hour) multiplied by the actual VOC content in weight % and dividing by 100%.

b. Emission Limitation: 2.64 lbs of ammonia/hour

Applicable Compliance Method: Compliance with the hourly emission limit has been determined by multiplying the maximum ammonia usage rate (lbs/hour) by the actual ammonia content in weight % and dividing by 100%.

c. Emission Limitation: 10.27 TPY of VOC

Applicable Compliance Method: Compliance with the annual VOC emission limit shall be determined by the record keeping requirements specified in Section C.2.

d. Emission Limitation: 5.83 TPY of ammonia

Applicable Compliance Method: Compliance with the annual ammonia emission limit shall be determined by the record keeping requirements specified in Section C.2.

e. Material Usage Limitations:

Material Pounds/Year

Water based inks 152,820
Water based adhesives 190,475
Cleanup material 10,000

Applicable Compliance Method: Compliance with the material usage limitations shall be determined by the record keeping requirements specified in Section C.2.

f. Emission Limitation: VOC content of each coating and ink not to exceed 25 percent VOC by volume of the volatile matter of the coating and ink, as applied, or;

VOC content of each coating and ink not to exceed 40 percent VOC by volume of the coating or ink, excluding water and exempt solvents, as applied

Applicable Compliance Method: Compliance shall be based upon the record keeping requirements specified in Section C.1 of this permit. In accordance with OAC rule 3745-21-04(B)(5), U.S. EPA Method 24A shall be used to determine the VOC contents of the coatings and inks. If, pursuant to Section 4.3 of Method 24, 40 CFR, Part 60, Appendix A, an owner or operator determines that Method 24A cannot be used for a particular coating or ink, the permittee shall so notify the Administrator of the U.S. EPA and shall use formulation data for that coating or ink to demonstrate compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24A.

F. Miscellaneous Requirements

1. None