

**A. Applicable Emission Limitations and/or Control Requirements**

1. Combined organic compound emissions from the oxidizer exhaust of emissions units R001, R002, R003, R004, R008 and R009 shall not exceed 30.37 pounds per hour.
2. Daily combined organic compound emissions from emissions units R001, R002, R003, R004, R008 and R009 shall not exceed 1844.9 pounds per day, which includes the limits of 728.9 pounds per day from the oxidizer exhaust and 1116.0 pounds per day from the fugitive emissions associated with the fountain solutions, blanket wash (including rubber revitalizer), metering roller cleaner, and non piling additive.
3. Annual combined organic compound emissions from all materials employed on emission units R001, R002, R003, R004, R008 and R009 shall not exceed 95.0 tons per year, based on a rolling 12-month summation. The permittee has existing records of the amount of OC emissions.
4. The following Organic Compound (OC) contents shall not be exceeded for all emission units:
  - a. Ink 50% by wt. OC
  - b. Adhesives 1.0 % by wt. OC
  - c. Blanket wash 100% by wt. OC
  - d. Metering Roller Cleaner 100% by wt. OC
  - e. Fountain solution No.1 20% by wt. OC
  - f. Fountain solution No.2 85% by wt. OC
  - g. Non piling additive 50% by wt. OC
5. The permittee shall operate and maintain a thermal oxidizer capable of maintaining, at a minimum, a 90.0 % (by weight of organic compounds) control efficiency at maximum hourly coating capacity from the oven exhaust for emissions units R001, R002, R003, R004, R008, and R009.
6. The hourly and/or daily emission limitation(s) outlined in this permit are based upon the maximum hourly production/application rate at 24 hours per day. Therefore, no hourly and/or daily records are required.

7. Visible particulate emissions from any stack associated with emissions units R001, R002, R003, R004, R008 and R009 shall not exceed 20% percent opacity, as a six-minute average, except as specified by rule.
8. The emissions [as defined by OAC rule 3745-77-01(BB)] of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act from this facility shall be less than 10 TPY for any single HAP and 25 TPY for any combination of HAPs. Compliance with the above limitations shall be determined on a rolling 12-month summation.

**B. Operational Restrictions**

1. The use of photochemically reactive material as defined in OAC rule 3745-21-01(C) (5) is prohibited.
2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when emissions units R001, R002, R003, R004, R008, and R009 are in operation shall not be less than 1275 degrees Fahrenheit.
3. Coating and cleanup material usages for emissions units R001, R002, R003, R004, R008 and R009 combined shall not exceed the following limits:

	Material Usages <u>Tons/yr**</u>
a. Inks	1050
b. Blanket wash***	60
c. Metering Roller Cleaner	3
d. Fountain solution No. 1*	25
e. Fountain solution No. 2*	25
f. Non Piling Additive	10
g. Adhesives	50

\* This usage limit is for the fountain solution concentrate.

\*\* Compliance with the annual usage limitations shall be determined on a rolling, 12-month summation.

\*\*\* Blanket wash includes rubber revitalizer.

4. To ensure an evaporative OC/VOC loss from the hand cleanup process of no more than 75% (by weight) from solvents having a vapor pressure greater than 10 mmHg (0.19 psia) at 20 degrees Celsius (68 degrees Fahrenheit), all rags utilized in the cleanup process shall be stored in containers with tight fitting covers.

**C. Monitoring and Recordkeeping Requirements**

1. The permittee shall collect and record the following information each month for each emissions unit:
  - a. The company identification of each ink, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution and non piling additive employed in each emissions unit.
  - b. The percent (%) by weight of the organic compound content of each ink, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution and non piling additive for each emissions unit.
  - c. The number of pounds of each ink, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution and non piling additive employed in each emissions unit.
  - d. A record of each liquid organic material employed in each emissions unit indicating whether or not the liquid organic material is photochemically reactive as defined in OAC rule 3745-21-01(C) (5).
  - e. The total rolling, 12-month summation of the ink, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution, adhesive and non piling additive in pounds employed for emissions units R001, R002, R003, R004, R008, and R009.
  - f. The total rolling, 12-month summation of the controlled Organic Compound (OC) emissions in tons per year from the inks, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution, and non piling

additive for emissions units R001, R002, R003, R004, R008, and R009.

2. The permittee shall collect and record the following information each month for the entire facility:
  - a. The name and identification number of each ink, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution, and non piling additive as applied.
  - b. The individual Hazardous Air Pollutant (HAP) content for each HAP of each ink, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution and non piling additive in pounds of individual HAP per pound of material, as applied.
  - c. The total combined HAP content of each ink, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution and non piling additive in pounds of combined HAPs per pound of material, as applied [sum all the individual HAP contents from (b)].
  - d. The number of pounds of each ink, adhesive, blanket wash (including rubber revitalizer), metering roller cleaner, fountain solution and non piling additive material employed.
  - e. The total individual HAP emissions for each HAP from all coatings and cleanup materials employed, in pounds or tons per month [for each HAP the sum of (b) times (d)].
  - f. The total combined HAP emissions from all coatings and cleanup materials employed, in pounds or tons per month [the sum of (c) times (d)].
  - g. The updated rolling, 12-month summation of the individual HAP emissions for each HAP from all coatings and cleanup materials employed.
  - h. The updated rolling, 12-month summation of the combined HAP emissions for all HAP from all coatings and cleanup materials employed.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when emissions units R001, R002, R003, R004, R008, and R009 are in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was less than 1275<sup>o</sup> F.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
4. Each record of any monitoring data, testing data and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. Such records may be maintained in computerized form.

#### **D. Reporting Requirements**

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing  
World Color - Red Bank Road  
PTI 14-4569

identifying each day during which any photochemically reactive material [as defined in OAC rule 3745-21-01(C)(5)] was employed in this emissions units R001, R002, R003, R004, R008, and R009. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of material(s) emitted each such day.

2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emissions limitations set forth in this Permit. The permittee shall submit annual reports which identify all exceedances of these limitations, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year. If no exceedances occurred during the reporting period then a report is required stating so.
3. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in T&C B.2.
4. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of organic compound emissions in TPY for each calendar month from emissions units R001, R002, R003, R004, R008, and R009. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous 3 calendar months.
5. The permittee shall submit quarterly reports which specify the updated rolling, 12-month summation of total usages in pounds from the inks, adhesives, blanket wash(including rubber revitalizer), metering roller cleaner, fountain solution and non piling additives for all emission units for each calendar month. These reports shall be submitted by February 15, May 15, August 15 and November 15 of each year and shall cover the previous 3 calendar months.
6. The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter.

The reports shall be submitted quarterly, i.e. by January 30, April 30, July 30, and October 30 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06).

7. The permittee shall submit deviation reports which identify all exceedances of the OC content limitations in T&C A.4.

**E. Compliance Methods/Testing Requirements**

1. Formulation data or USEPA method 24 (for coatings) or 24A (for flexographic and rotogravure printing lines and related coatings) shall be used to determine the OC contents of the inks and coatings.
2. The OC emissions are calculated by multiplying the percent (%) by weight OC content times the material usage rate times the ink retention consistent with the Ohio EPA Engineering Guide #56 times the control efficiency.

3. Compliance with the visible emissions limitation in Term A.7 shall be demonstrated by the methods outlined in OAC rule 3745-17-03(B) (1).
4. Compliance with the percent by weight OC content and the usage limitations in pounds will be determined by the recordkeeping in Term C.1.
5. The permittee shall conduct emission testing for the oxidizer for emissions units R001, R002, R003, R004, R008, and R009 in accordance with the following requirements:
  - a. The emission testing shall be conducted within 3 months after issuance of the permit for emissions units R001, R002, R003, R004, R008, and R009.
  - b. The emission testing shall be conducted to demonstrate compliance with the 90.0 % control efficiency limitation for organics.
  - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Method 25 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
  - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

6. Compliance with the HAP emission limitation will be determined by the record keeping in T&C C.2.

**F. Miscellaneous**

1. If probable cause exist indicating that any of the emissions units R001, R002, R003, R004, R008, and R009 are causing or contributing to a nuisance in violation of Ohio Administrative Code rule 3745-15-07, the owner or operator of these emissions units shall be required to submit and implement a control program which will bring this emissions unit into compliance.
2. The following terms and conditions shall supersede all the air pollution control requirements contained in the modification to permit to install 14-2849 issued for emissions units R001, R002, R003, R004, R008, and R009 on January 4, 1996.

Special Terms and Conditions A-F

3. This permit allows the use of the coatings and cleanup materials specified by the permittee in the application for PTI number 14-4569. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in

accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on both the coating and cleanup material formulation data and the design parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the Screen3 model and a comparison of the predicted 1 hour maximum ground-level concentration to the MAGLC. The following summarizes the results of the modeling for each pollutant:

Pollutant: Glycol ethers

TLV (mg/m3): 121  
Maximum Hourly Emission Rate (lbs/hr): 5.72  
Predicted 1 Hour Maximum Ground-Level Concentration at 26 meters (ug/m3): 1999.4  
Maximum Acceptable Ground-Level Concentration (MAGLC) (ug/m3): 2881

Pollutant: Naphthalene

TLV (mg/m3): 52  
Maximum Hourly Emission Rate (lbs/hr): 0.027  
Predicted 1 Hour Maximum Ground-Level Concentration at 26 meters (ug/m3): 5.3  
Maximum Acceptable Ground-Level Concentration (MAGLC) (ug/m3): 1238

Any of the following changes may be deemed a "modification" to the emissions unit and, as such, prior notification to and approval from the appropriate Ohio EPA District Office or local air agency are required, including the possible issuance of modifications to PTI number 14-4569 and the operating permit:

- a. Any changes in the composition of the coatings or cleanup materials, or the use of new coatings or cleanup 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 specified in the above table.

- b. Any change to the emissions unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height) that would result in an exceedance of any MAGLC specified in the above table.
- c. Any change to the emissions unit or its method of operation that would either require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01.
- d. Any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" (HAPS) as defined in OAC rule 3745-77-01(V).

PTI 14-4569

World Color - Red Bank Road  
3600 Red Bank Road  
Cincinnati, OH 45227

Premise Number: 1431070458

World Color prints magazines, periodicals, and brochures using heatset web offset printing lines. This permit will modify the existing heatset printing lines, R001 - R004, R008 and R009, by increasing the OC content limits of the inks and the blanket wash. The previous OC content limits, established in PTI 14-2849, were expressed in pounds OC per gallon coating. This permit will express the OC content limit in percent by weight OC, as requested by the permittee. Fountain solutions will be reported as concentrate, not as applied. Usages will also be limited in pounds of material. Overall OC emissions for all presses combined will increase from 87.5 TPY to 95.0 TPY.

There is currently an EAR in process against this facility for exceeding their OC content limit. This modification to the OC content limits in this permit for emissions units R001, R002, R003, R004, R008, and R009 will bring the facility into compliance.

The applicable OAC rules are 3745-31-05(BAT), 3745-15-07, 3745-17-07, 3745-17-11 and 3745-21-07(G).

BAT for all emissions units includes the following:

- \*Control by a thermal oxidizer with a control efficiency of at least 90.0 %,
- \*Compliance with OC content limitations and usage limitations, and
- \*Compliance with Ohio's Air Toxics Policy.

With the modification to existing emissions units, all presses will be in compliance with applicable regulations. Since the permittee will comply with BAT for all emissions units and all emissions units comply with Ohio's Air Toxics Policy, this PTI application is recommended for approval.

Permit fee: 6 existing printing presses x \$200 = \$1200

Prepared by: Barbara Kerdolff  
Date prepared: July 15, 1998

## Synthetic Minor Determination

World Color - Red Bank Road  
PTI 14-4569

### **A. Source Description:**

World Color prints magazines, periodicals, and brochures. The permittee is applying for a permit to install (PTI) to increase the OC content limitation for the inks and the blanket wash used in their heatset presses.

### **B. Facility Emissions and Attainment Status:**

World Color - Red Bank Road, is a stationary facility located in Hamilton County, Ohio. Hamilton County is designated as attainment for PM/PM<sub>10</sub>, SO<sub>2</sub>, and CO and is designated non-attainment for OC and NO<sub>x</sub> for purposes of new source review.

### **C. Source Emissions:**

The OC content limitations and the usage limitations will limit the potential emissions to 95.0 TPY for all presses combined. The potential HAP emissions will be less than 10 TPY for any individual HAP and 25 TPY for combined HAPs. These heatset web offset printing presses are controlled by a thermal oxidizer.

### **D. Conclusion:**

The terms and conditions in this permit application will limit the OC emissions to less than 100 TPY so that the facility will not be subject to Title V regulations. Compliance with the emission and usage limitations will be determined on a rolling 12-month summation. There is also a OC content limitation for all materials employed. The facility will be required to maintain monthly usage and emission records and submit reports as required by the additional terms and conditions to determine compliance.