

Facility ID: 1431480237 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

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.

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Facility ID: 1431480237 Emissions Unit ID: P022 Issuance type: Final State Permit To Operate

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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>
P022 - Liquid Ink Mixer 1	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 2.46 pounds per hour. See terms and conditions A.2.a and A.2.g. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation. See terms and conditions A.2.f and A.2.j.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)	See term and condition A.2.b.
	OAC rule 3745-17-07(A)(1)	See term and condition A.2.d.
	OAC rule 3745-17-07(B)(1)	See term and condition A.2.c.
	OAC rule 3745-21-07(G)(2)	Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.
	OAC rule 3745-17-11(B)	Particulate emissions (PE) from the mixer shall not exceed 1.44 pounds per hour.
	OAC rule 3745-31-05(A)(3)(b)	See term and condition A.2.h.
	OAC rule 3745-17-08(B)(3)	See term and condition A.2.i.

no visible particulate emissions from the exhaust stack, whichever is less stringent.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
- Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
- Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.
- The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
- The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) from this air contaminant source since the uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.
- The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
- The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

1. None

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
- The name and identification of each batch of ink produced.
 - The amount of each organic material used in the formulation of inks, in pounds.
 - The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of $[(b) \times (0.0117 \text{ pound of OC emitted/pound of OC processed})/2000]$ for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.
 - The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).
 - The OC content, in percent by weight, for each batch.
2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other de minimis emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:
- The name and identification number of each batch of ink produced containing a HAP(s).
 - The number of pounds of each batch of ink produced.
 - The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
 - The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
 - The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for

each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].

f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].

g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall maintain monthly record of the following information:

a. The production rate for each month, in pounds of ink.

b. The rolling, 12-month summation of the production rates, in pounds of ink.

4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

5. The permittee shall maintain monthly record of the following information:

a. the operating hours for this emissions unit for each month; and

b. the rolling, 12-month summation of the operating hours.

D. Reporting Requirements

1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).

3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).

4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.

5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.

6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate emissions and/or visible fugitive dust emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year

and shall cover the previous 6-month periods.

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 2.46 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 1200 pounds per batch) / (2 hours per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 1.44 pounds per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 1200 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)]. (Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

c. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.

e. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

g. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.g shall be based upon the record keeping requirements as specified in section C.1.

h. Emission Limitation:

The uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product. The annual PE-PM10 emission rate was calculated by: [(1200 pounds of ink per hour. See note in term E.1.b above) x (35% added pigment) x (0.1% AP-42 emission factor) x 4380 hours per year/(2000)].

2. Compliance with OAC rule 3745-17-08(B)(3) shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.
3. Compliance with the production rate limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.3.
4. Compliance with the annual operating hour limitation in term A.2.j shall be based upon the record keeping requirements as specified in term C.5.

F. **Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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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>
P023 - Liquid Ink Mixer 2	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 1.64 pounds per hour. See terms and conditions A.2.a and A.2.g.
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B). Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation. See terms and conditions A.2.f and A.2.j.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)	See term and condition A.2.b.
	OAC rule 3745-17-07(A)(1)	See term and condition A.2.d.

OAC rule 3745-17-07(B)(1)	See term and condition A.2.c.
OAC rule 3745-21-07(G)(2)	Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.
OAC rule 3745-17-11(B)	Particulate emissions (PE) from the mixer shall not exceed 0.69 pound per hour.
OAC rule 3745-31-05(A)(3)(b)	See term and condition A.2.h.
OAC rule 3745-17-08(B)(3)	See term and condition A.2.i.

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
 The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031(Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
 Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
 Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
 The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.
 The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
 The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
 The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) from this air contaminant source since the uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.
 The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
 The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

- 1. None

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
 - a. The name and identification of each batch of ink produced.
 - b. The amount of each organic material used in the formulation of inks, in pounds.
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

 The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

 *Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.
 - d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).
 - e. The OC content, in percent by weight, for each batch.
- 2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031(Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory

Mill (exempt), other de minimus emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:

- a. The name and identification number of each batch of ink produced containing a HAP(s).
- b. The number of pounds of each batch of ink produced.
- c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
- d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
- e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].
- f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].
- g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
- h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall maintain monthly record of the following information:
 - a. The production rate for each month, in pounds of ink.
 - b. The rolling, 12-month summation of the production rates, in pounds of ink.
4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

5. The permittee shall maintain monthly record of the following information:
 - a. the operating hours for this emissions unit for each month; and
 - b. the rolling, 12-month summation of the operating hours.

D. Reporting Requirements

1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month

production rate limitation.

5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.
7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate emissions and/or visible fugitive dust emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 1.64 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 400 pounds per batch) / (1 hour per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 0.69 pound per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 400 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)]. (Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

c. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.

e. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).
g. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.g shall be based upon the record keeping requirements as specified in section C.1.

h. Emission Limitation:

The uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product. The annual PE-PM10 emission rate was calculated by: [(400 pounds of ink per hour. See note in term E.1.b above) x (35% added pigment) x (0.1% AP-42 emission factor) x 8760 hours per year/(2000)].

2. Compliance with OAC rule 3745-17-08(B)(3) shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.
3. Compliance with the production rate limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.3.
4. Compliance with the annual operating hour limitation in term A.2.j shall be based upon the record keeping requirements as specified in term C.5.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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

Facility ID: 1431480237 Emissions Unit ID: P024 Issuance type: Final State Permit To Operate

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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>
P024 - Liquid Ink Mixer 3	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 3.41 pounds per hour. See terms and conditions A.2.a and A.2.g. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C)

<p>OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)</p>	<p>and 3745-35-07(B). Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation.</p>
<p>OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)</p>	<p>See terms and conditions A.2.f and A.2.j. See term and condition A.2.b.</p>
<p>OAC rule 3745-17-07(A)(1) OAC rule 3745-17-07(B)(1) OAC rule 3745-21-07(G)(2)</p>	<p>See term and condition A.2.d. See term and condition A.2.c. Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.</p>
<p>OAC rule 3745-17-11(B)</p>	<p>Particulate emissions (PE) from the mixer shall not exceed 2.36 pounds per hour.</p>
<p>OAC rule 3745-31-05(A)(3)(b) OAC rule 3745-17-08(B)(3)</p>	<p>See term and condition A.2.h. See term and condition A.2.i.</p>

The particulate emission rate at the control device outlet shall not exceed 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gas or no visible particulate emissions from the exhaust stack, whichever is less stringent.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
 The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031(Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
 Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
 Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
 The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.
 The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
 The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
 The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) from this air contaminant source since the uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.
 The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
 The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

- 1. None

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
 - a. The name and identification of each batch of ink produced.
 - b. The amount of each organic material used in the formulation of inks, in pounds.
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

 The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to

Estimating VOC Emissions from Printing Ink Manufacturing.

- d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).
 - e. The OC content, in percent by weight, for each batch.
2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031(Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other de minimus emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:
 - a. The name and identification number of each batch of ink produced containing a HAP(s).
 - b. The number of pounds of each batch of ink produced.
 - c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
 - d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
 - e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].
 - f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].
 - g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
 - h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.
 3. The permittee shall maintain monthly record of the following information:
 - a. The production rate for each month, in pounds of ink.
 - b. The rolling, 12-month summation of the production rates, in pounds of ink.
 4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
 5. The permittee shall maintain monthly record of the following information:
 - a. the operating hours for this emissions unit for each month; and
 - b. the rolling, 12-month summation of the operating hours.
- D. Reporting Requirements**
1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.
7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate emissions and/or visible fugitive dust emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 3.41 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 2500 pounds per batch) / (3 hours per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.
 - b. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 2.36 pound per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 2500 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)]. (Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)
 - c. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.
 - d. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.
 - e. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

g. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.g shall be based upon the record keeping requirements as specified in section C.1.

h. Emission Limitation:

The uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product. The annual PE-PM10 emission rate was calculated by: $[(2500 \text{ pounds of ink per hour} \times (35\% \text{ added pigment}) \times (0.1\% \text{ AP-42 emission factor}) \times 2920 \text{ hours per year}) / (2000)]$.

2. Compliance with OAC rule 3745-17-08(B)(3) shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.
3. Compliance with the production rate limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.3.
4. Compliance with the annual operating hour limitation in term A.2.j shall be based upon the record keeping requirements as specified in term C.5.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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

Facility ID: 1431480237 Emissions Unit ID: P026 Issuance type: Final State Permit To Operate

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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>
P026 - Liquid Ink Mixer 5	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 1.02 pounds per hour. See terms and conditions A.2.a and A.2.g. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation. See terms and conditions A.2.f and A.2.j.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)	See term and condition A.2.b.
	OAC rule 3745-17-07(A)(1)	See term and condition A.2.d.
	OAC rule 3745-17-07(B)(1)	See term and condition A.2.c.
	OAC rule 3745-21-07(G)(2)	Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.
	OAC rule 3745-17-11(B)	Particulate emissions (PE) from the mixer shall not exceed 0.551 pound per hour.
	OAC rule 3745-31-05(A)(3)(b)	See term and condition A.2.h.
	OAC rule 3745-17-08(B)(3)	See term and condition A.2.i.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.
The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) from this air contaminant source since the uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.
The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.
The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

1. None

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and

P033:

- a. The name and identification of each batch of ink produced.
- b. The amount of each organic material used in the formulation of inks, in pounds.
- c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.
- d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).
- e. The OC content, in percent by weight, for each batch.

2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031(Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other de minimis emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:

- a. The name and identification number of each batch of ink produced containing a HAP(s).
- b. The number of pounds of each batch of ink produced.
- c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
- d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
- e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].
- f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].
- g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
- h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall maintain monthly record of the following information:

- a. The production rate for each month, in pounds of ink.
- b. The rolling, 12-month summation of the production rates, in pounds of ink.

4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the location and color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or

specify the corrective actions that were taken to eliminate abnormal visible emissions.

5. The permittee shall maintain monthly record of the following information:
 - a. the operating hours for this emissions unit for each month; and
 - b. the rolling, 12-month summation of the operating hours.

D. Reporting Requirements

1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.
7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate emissions and/or visible fugitive dust emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 1.02 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 250 pounds per batch) / (1 hour per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 250 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)]. (Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

c. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.

e. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

g. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.g shall be based upon the record keeping requirements as specified in section C.1.

h. Emission Limitation:

The uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product. The annual PE-PM10 emission rate was calculated by: [(250 pounds of ink per hour. See note in term E.1.b above) x (35% added pigment) x (0.1% AP-42 emission factor) x 8760 hours per year/(2000)].

2. Compliance with OAC rule 3745-17-08(B)(3) shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.
3. Compliance with the production rate limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.3.
4. Compliance with the annual operating hour limitation in term A.2.j shall be based upon the record keeping requirements as specified in term C.5.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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

Facility ID: 1431480237 Emissions Unit ID: P027 Issuance type: Final State Permit To Operate

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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>
P027 - Liquid Ink Mixer 6	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 4.10 pounds per hour. See terms and conditions A.2.a and A.2.g. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation. See terms and conditions A.2.f and A.2.j.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)	See term and condition A.2.b.
	OAC rule 3745-17-07(A)(1)	See term and condition A.2.d.
	OAC rule 3745-17-07(B)(1)	See term and condition A.2.c.
	OAC rule 3745-21-07(G)(2)	Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.
	OAC rule 3745-17-11(B)	Particulate emissions (PE) from the mixer shall not exceed 2.03 pounds per hour.
	OAC rule 3745-31-05(A)(3)(b)	See term and condition A.2.h.
	OAC rule 3745-17-08(B)(3)	See term and condition A.2.i.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.
The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter

(PM10) from this air contaminant source since the uncontrolled potential to emit for PE, PM10 and PM2.5, individually, is less than ten tons per year.

The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

1. None

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:

- a. The name and identification of each batch of ink produced.
- b. The amount of each organic material used in the formulation of inks, in pounds.
- c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

- d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).
- e. The OC content, in percent by weight, for each batch.

2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other de minimis emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:

- a. The name and identification number of each batch of ink produced containing a HAP(s).
- b. The number of pounds of each batch of ink produced.
- c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
- d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
- e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].
- f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].
- g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
- h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall maintain monthly record of the following information:

- a. The production rate for each month, in pounds of ink.
- b. The rolling, 12-month summation of the production rates, in pounds of ink.

4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the location and color of the emissions;
- b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

5. The permittee shall maintain monthly record of the following information:

a. the operating hours for this emissions unit for each month; and

b. the rolling, 12-month summation of the operating hours.

D. Reporting Requirements

1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.
7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate emissions and/or visible fugitive dust emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 4.10 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 2000 pounds per batch) / (2 hours per batch) x (35 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 2.03 pounds per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 2000 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)]. (Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication

from Tom Kalman, Ohio EPA.)
c. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.

e. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

g. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.g shall be based upon the record keeping requirements as specified in section C.1.

h. Emission Limitation:

The uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product. The annual PE-PM10 emission rate was calculated by: [(2000 pounds of ink per hour. See note in term E.1.b above) x (35% added pigment) x (0.1% AP-42 emission factor) x 4380 hours per year/(2000)].

2. Compliance with OAC rule 3745-17-08(B)(3) shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.
3. Compliance with the production rate limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.3.
4. Compliance with the annual operating hour limitation in term A.2.j shall be based upon the record keeping requirements as specified in term C.5.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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

Facility ID: 1431480237 Emissions Unit ID: P029 Issuance type: Final State Permit To Operate

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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>
P029 - 0.5 HP Air Ink Mixer	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 1.33 pounds per hour. See terms and conditions A.2.a and A.2.e.
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B). Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation. See terms and conditions A.2.d and A.2.f.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) OAC rule 3745-21-07(G)(2)	See term and condition A.2.b. Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031(Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.
The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

1. None

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
 - a. The name and identification of each batch of ink produced.
 - b. The amount of each organic material used in the formulation of inks, in pounds.
 - c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of $[(b) \times (0.0117 \text{ pound of OC emitted/pound of OC processed}^*)/2000]$ for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.
 - d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).
 - e. The OC content, in percent by weight, for each batch.
 2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other de minimis emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:
 - a. The name and identification number of each batch of ink produced containing a HAP(s).
 - b. The number of pounds of each batch of ink produced.
 - c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
 - d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
 - e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].
 - f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].
 - g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
 - h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.
 3. The permittee shall maintain monthly record of the following information:
 - a. The production rate for each month, in pounds of ink.
 - b. The rolling, 12-month summation of the production rates, in pounds of ink.
 4. The permittee shall maintain monthly record of the following information:
 - a. the operating hours for this emissions unit for each month; and
 - b. the rolling, 12-month summation of the operating hours.
- D. Reporting Requirements**
1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
 2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
 3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each

year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).

4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 1.33 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 40 pounds per batch) / (0.33 hour per batch) x (95 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

c. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.

d. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.e shall be based upon the record keeping requirements as specified in section C.1.

2. Compliance with the production rate limitation in term A.2.d shall be based upon the record keeping requirements as specified in term C.3.
3. Compliance with the annual operating hour limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.4.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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

Facility ID: 1431480237 Emissions Unit ID: P030 Issuance type: Final State Permit To Operate

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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>
P030 - 0.25 HP Air Ink Mixer	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 0.36 pound per hour. See terms and conditions A.2.a and A.2.e. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation. See terms and conditions A.2.d and A.2.f.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)	See term and condition A.2.b.
	OAC rule 3745-21-07(G)(2)	Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.
The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.
The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

1. None

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:
 - a. The name and identification of each batch of ink produced.
 - b. The amount of each organic material used in the formulation of inks, in pounds.

c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of $[(b) \times (0.0117 \text{ pound of OC emitted/pound of OC processed})/2000]$ for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).

e. The OC content, in percent by weight, for each batch.

2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other de minimis emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:

a. The name and identification number of each batch of ink produced containing a HAP(s).

b. The number of pounds of each batch of ink produced.

c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.

d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].

e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of $(b) \times (1.17 \text{ percent for liquid mixers and dispenser; } 0.087 \text{ percent for paste ink mixers; } 0.93 \text{ percent for paste ink mills}) \times (c)$].

f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of $(b) \times (1.17 \text{ percent for liquid mixers and dispenser; } 0.087 \text{ percent for paste ink mixers; } 0.93 \text{ percent for paste ink mills}) \times (d)$].

g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall maintain monthly record of the following information:

a. The production rate for each month, in pounds of ink.

b. The rolling, 12-month summation of the production rates, in pounds of ink.

4. The permittee shall maintain monthly record of the following information:

a. the operating hours for this emissions unit for each month; and

b. the rolling, 12-month summation of the operating hours.

D. Reporting Requirements

1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).

3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).

4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.

5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month

operating hour limitation.

6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 0.36 pound per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 8 pounds per batch) / (0.25 hour per batch) x (95 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

c. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.

d. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.e shall be based upon the record keeping requirements as specified in section C.1.

2. Compliance with the production rate limitation in term A.2.d shall be based upon the record keeping requirements as specified in term C.3.
3. Compliance with the annual operating hour limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.4.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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

Facility ID: 1431480237 Emissions Unit ID: P031 Issuance type: Final State Permit To Operate

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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>
P031 - Liquid Ink Mixer 10	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 4.45 pounds per hour. See terms and conditions A.2.a and A.2.g. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation. See terms and conditions A.2.f and A.2.j.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)	See terms and conditions A.2.b.
	OAC rule 3745-17-07(A)(1)	See term and condition A.2.d.
	OAC rule 3745-17-07(B)(1)	See term and condition A.2.c.
	OAC rule 3745-21-07(G)(2)	Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.
	OAC rule 3745-17-11(B)	Particulate emissions (PE) from the mixer shall not exceed 0.69 pound per hour.
	OAC rule 3745-31-05(A)(3)(b)	See term and condition A.2.h.
	OAC rule 3745-17-08(B)(3)	See term and condition A.2.i.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.

The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.

Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.

The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) from this air contaminant source since the uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

1. None

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:

- a. The name and identification of each batch of ink produced.
- b. The amount of each organic material used in the formulation of inks, in pounds.
- c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

- d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).
- e. The OC content, in percent by weight, for each batch.

2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other de minimis emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:

- a. The name and identification number of each batch of ink produced containing a HAP(s).
- b. The number of pounds of each batch of ink produced.
- c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
- d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
- e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].
- f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].
- g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
- h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall maintain monthly record of the following information:
 - a. The production rate for each month, in pounds of ink.
 - b. The rolling, 12-month summation of the production rates, in pounds of ink.
4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- 5. The permittee shall maintain monthly record of the following information:
 - a. the operating hours for this emissions unit for each month; and
 - b. the rolling, 12-month summation of the operating hours.

D. Reporting Requirements

1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.
7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate emissions and/or visible fugitive dust emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 4.45 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 400 pounds per batch) / (1 hour per batch) x (95 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 0.69 pound per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 400 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)]. (Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

c. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.

e. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

g. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.g shall be based upon the record keeping requirements as specified in section C.1.

h. Emission Limitation:

The uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product. The annual PE-PM10 emission rate was calculated by: [(400 pounds of ink per hour. See note in term E.1.b above) x (35% added pigment) x (0.1% AP-42 emission factor) x 4380 hours per year/(2000)].

2. Compliance with OAC rule 3745-17-08(B)(3) shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.
3. Compliance with the production rate limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.3.
4. Compliance with the annual operating hour limitation in term A.2.j shall be based upon the record keeping requirements as specified in term C.5.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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

Facility ID: 1431480237 Emissions Unit ID: P032 Issuance type: Final State Permit To Operate

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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>
P032 - Liquid Ink Mixer 11	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from the mixer shall not exceed 11.86 pounds per hour. See terms and conditions A.2.a and A.2.g.
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B). Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY, based on a rolling, 12-month summation. See terms and conditions A.2.f and A.2.j.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)	See terms and conditions A.2.b.
	OAC rule 3745-17-07(A)(1)	See term and condition A.2.d.
	OAC rule 3745-17-07(B)(1)	See term and condition A.2.c.
	OAC rule 3745-21-07(G)(2)	Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.
	OAC rule 3745-17-11(B)	Particulate emissions (PE) from the mixer shall not exceed 1.75 pounds per hour.
	OAC rule 3745-31-05(A)(3)(b)	See term and condition A.2.h.
	OAC rule 3745-17-08(B)(3)	See term and condition A.2.i.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031(Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.

Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.

The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) from this air contaminant source since the uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

The fugitive dust from this emissions unit shall be controlled by the use of reasonably available control measures adequate to minimize or eliminate visible particulate emissions.

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

1. None

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:

- a. The name and identification of each batch of ink produced.
- b. The amount of each organic material used in the formulation of inks, in pounds.
- c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

- d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals).
 - e. The OC content, in percent by weight, for each batch.
2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other de minimis emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:
 - a. The name and identification number of each batch of ink produced containing a HAP(s).
 - b. The number of pounds of each batch of ink produced.
 - c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
 - d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
 - e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].
 - f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].
 - g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
 - h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.

3. The permittee shall maintain monthly record of the following information:
 - a. The production rate for each month, in pounds of ink.

- b. The rolling, 12-month summation of the production rates, in pounds of ink.
- 4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
- 5. The permittee shall maintain monthly record of the following information:
 - a. the operating hours for this emissions unit for each month; and
 - b. the rolling, 12-month summation of the operating hours.

D. Reporting Requirements

- 1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
- 2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
- 3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
- 4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
- 5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.
- 6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.
- 7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate emissions and/or visible fugitive dust emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

E. Testing Requirements

- 1. Compliance with the emission, hour and usage limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Organic compound (OC) emissions from the mixer shall not exceed 11.86 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 1600 pounds per batch) / (1.5 hours per batch) x (95 percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

b. Emission Limitation:

Particulate emissions (PE) from the mixer shall not exceed 1.75 pounds per hour.

Applicable Compliance Method:

The hourly PE emission rate is based on Table I in OAC rule 3745-17-11. The actual emissions shall be calculated by: [(maximum production rate of 1600 pounds per batch) x (35 percent by weight added pigment) x (0.1% lb of PE per pound of pigment AP-42 emission factor)]. (Note: The PE occur at the start of the batch cycle and do not extend over more than the first hour of the total batch cycle time, therefore the process weight rate is not divided by the length of the batch time. The weight of the liquid was not included in the process weight rate in the calculation of both the allowable PE and the actual PE because the liquid content in this process does not cause or result in the emission of particulate matter, following guidance per February 22, 2007 communication from Tom Kalman, Ohio EPA.)

c. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined, based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitations in section A.1 shall be based upon the record keeping requirements as specified in section C.1. The rolling 12-month OC emission rate shall be calculated by: (the actual rolling 12-month production rate) x (the actual percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/pound of OC processed).

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

d. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs, based on a rolling 12-month summation for the emission units listed in section A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping requirements specified in section C.2.

e. Emission Limitation:

Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

g. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.g shall be based upon the record keeping requirements as specified in section C.1.

h. Emission Limitation:

The uncontrolled potential to emit for PE and PM10, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10 emission rate is based on this emission unit's uncontrolled potential to emit employing the concept that all emissions are emitted during the first hour of the making of a batch of product regardless of the number of hours to produce a batch of product. The annual PE-PM10 emission rate was calculated by: [(1600 pounds of ink per hour. See note in term E.1.b above) x (35% added pigment) x (0.1% AP-42 emission factor) x 5840 hours per year/(2000)].

2. Compliance with OAC rule 3745-17-08(B)(3) shall be demonstrated via the design specifications of the dust collector and its collection system and the performance of daily visual inspections of source emissions.
3. Compliance with the production rate limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.3.
4. Compliance with the annual operating hour limitation in term A.2.j shall be based upon the record keeping

requirements as specified in term C.5.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

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

Facility ID: 1431480237 Emissions Unit ID: P033 Issuance type: Final State Permit To Operate

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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>
P033 - Liquid Ink Dispenser	OAC rule 3745-31-05(A)(3) PTI 14-05917	Organic compound (OC) emissions from this emissions unit shall not exceed 3.28 pounds per hour. See terms and conditions A.2.a and A.2.e. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).
	OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review)	Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 TPY of OC, based on a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
	OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28)	See terms and conditions A.2.d and A.2.f. See terms and conditions A.2.b.
	OAC rule 3745-21-07(G)(2)	Exempt due to Ohio Supreme Court decision of July 11, 2001 and the Ohio EPA permitting call held on July 18, 2002.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031(Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt), other deminimis air contaminant sources, as defined in OAC rule 3745-15-05 and other air contaminant sources exempt from the requirement to obtain a permit to install pursuant to

OAC rule 3745-31-03 installed subsequent to the issuance of this permit combined shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitation shall be based on a rolling, 12-month summation.

The hourly OC emission limitation outlined is based upon the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

The maximum annual production rate for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 17,170,000 pounds of ink per year, based upon a rolling, 12-month summation of the production rates.

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation.

B. Operational Restrictions

1. None

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds used in the formulation of finished inks for emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033:

- a. The name and identification of each batch of ink produced.
- b. The amount of each organic material used in the formulation of inks, in pounds.
- c. The total combined monthly OC emissions, in tons per month. This calculation shall be based on the following equation:

The summation of [(b) x (0.0117 pound of OC emitted/pound of OC processed*)/2000] for each liquid organic material used in the formulation of inks.

*Emission factor derived from the National Association of Printing Ink Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

- d. The rolling, 12-month summation of OC emissions (the summation of the current month's emission total and the previous eleven calendar months emission totals)
 - e. The OC content, in percent by weight, for each batch.
2. The permittee shall collect and record the following information each month for emissions units P003 (Paste Ink Mixer 1), P004 (Paste Ink Mixer 2), P005 (Paste Ink Mixer 3), P006 (Paste Ink Mixer 4), P007 (Paste Ink Mixer 5), P008 (Paste Ink Mixer 6), P009 (Paste Ink Mixer 7), P014 (3-Roll Mill 1), P015 (3-Roll Mill 2), P016 (3-Roll Mill 3), P017 (3-Roll Mill 4), P018 (3-Roll Mill 5), P019 (3-Roll Mill 6), P022 (Liquid Ink Mixer 1), P023 (Liquid Ink Mixer 2), P024 (Liquid Ink Mixer 3), P026 (Liquid Ink Mixer 5), P027 (Liquid Ink Mixer 6), P029 (Liquid Ink Mixer 8), P030 (Liquid Ink Mixer 9), P031 (Liquid Ink Mixer 10), P032 (Liquid Ink Mixer 11), P033 (Liquid Ink Dispenser), seven 2 HP Paste Mixers (deminimis), one 3 HP Paste Mixer (deminimis), one 3 Roll Laboratory Mill (exempt) other de minimus emissions units (as defined in OAC rule 3745-15-05) and other emissions units exempt from the requirement to obtain a permit to install pursuant to OAC rule 3745-31-03:
- a. The name and identification number of each batch of ink produced containing a HAP(s).
 - b. The number of pounds of each batch of ink produced.
 - c. The individual Hazardous Air Pollutant (HAP) content for each HAP per pound of ink produced in pounds of individual HAP per pound of ink.
 - d. The total combined HAP content of each ink in pounds of combined HAPs per pound of ink [sum all the individual HAP contents from (c)].
 - e. The total individual HAP emissions for each HAP from all inks employed in pounds or tons per month [for each individual HAP, the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (c)].
 - f. The total combined HAP emissions from all inks employed in pounds or tons per month [the summation of (b) x (1.17 percent for liquid mixers and dispenser; 0.087 percent for paste ink mixers; 0.93 percent for paste ink mills) x (d)].
 - g. The updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
 - h. The updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.
- A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a line-by-line basis.
3. The permittee shall maintain monthly record of the following information:
- a. The production rate for each month, in pounds of ink.
 - b. The rolling, 12-month summation of the production rates, in pounds of ink.
4. The permittee shall maintain monthly record of the following information:
- a. the operating hours for this emissions unit for each month; and
 - b. the rolling, 12-month summation of the operating hours.

D. Reporting Requirements

1. The permittee shall submit annual reports to Hamilton County Department of Environmental Services which specify the total organic compound emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
2. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the OC emission limitation outlined in term and condition A.1. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
3. The permittee shall notify the Hamilton County Department of Environmental Services of any exceedance of the HAP emission limitations outlined in term and condition A.2.b. If no exceedances occurred, the permittee shall state so in the report. The reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
4. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
5. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hour limitation.
6. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in terms and conditions A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Organic compound (OC) emissions from this emissions unit shall not exceed 3.28 pounds per hour.

Applicable Compliance Method:

The hourly OC emission rate is based on the emissions unit's potential to emit. The potential to emit was calculated by: (maximum production rate of 400 pounds per batch) / (0.5 hour per batch) x (35% percent by weight OC content, in pounds of OC processed) x (0.0117 pound of OC emitted/ pound of OC processed).
 - b. Emission Limitation:

53.0 TPY of OC from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined based on a rolling 12-month summation.

Applicable Compliance Method:

Compliance with the annual organic compound emission limitation in term A.1 shall be based upon the record keeping requirements as specified in term C.1.
 - c. Emission Limitation:

9.9 TPY for any single HAP and 24.9 TPY for combined HAPs listed in term A.2.b.

Applicable Compliance Method:

Compliance with the HAP emission limitation in term A.2.b shall be demonstrated by the record keeping requirements specified in term C.2.
 - d. Emission Limitation:

The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.

Applicable Compliance Method:

Compliance with the OC content limitation in term A.2.e shall be based upon the record keeping requirements as specified in term C.1.
2. Compliance with the production rate limitation in term A.2.d shall be based upon the record keeping requirements as specified in term C.3.
3. Compliance with the annual operating hour limitation in term A.2.f shall be based upon the record keeping requirements as specified in term C.4.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").
2. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.