

Synthetic Minor Determination and/or Netting Determination

Permit To Install: 14-05917

A. Emissions Unit Description

Sun Chemical is a paint and ink mixing facility located in Cincinnati, Ohio. The facility only mixes final products to the customer demand and there is no actual manufacturing of paints or inks. Once the paint or ink is mixed to the proper specifications, the material is then poured into barrels and shipped to the customer.

B. Facility Emissions and Attainment Status

Actual facility organic compound (OC) emissions are less than 1 lb/hour and 4.8 tons per year (TPY). Hourly allowable OC emissions vary by emissions unit. Annual allowable OC emissions are 53 TPY. The Sun Chemical facility is located in Hamilton County which is non-attainment for ozone and particulate matter 2.5 microns and less in diameter. Actual facility particulate matter (PE)/PM10 emissions are less than 2 lb/hr and 0.50 TPY. Hourly allowable PE/PM10/PM2.5 emissions vary by emission unit. Annual PE/PM10/PM2.5 emissions are less than 10.0 TPY. The facility hazardous air pollutant (HAP) emissions are less than 9.9 TPY of any individual single HAP and 24.9 TPY of any combined HAPs.

C. Emissions Units Emissions

Most of the emissions from the Sun Chemical facility come from the liquid ink mixers and dispenser (emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033). Emissions units P022, P023, P024, P026, P027, P031 and P032 are equipped with covers and connected to a baghouse. Emissions units P029, P030 and P033 do not mix dry material and are not required to have covers or dust collection. Emissions units P003-P021 are paint mixer machines that are currently on air PTI registration status. The permittee will maintain the original material usage and organic compound (OC) content records to demonstrate compliance with the air permit to install (PTI) limitations. The Sun Chemical facility will accept a facility-wide limitation of less than 10 tons per year for each individual hazardous air pollutant (HAP) and less than 25 tons per year for any combined HAPs to avoid Title V permit to operate applicability. The Sun Chemical facility will also keep rolling 12-month summation record of production and operating hours to demonstrate compliance with the PTI limitations.

D. Conclusion

The Sun Chemical facility wanted to correct several errors in the originally issued air PTI. Most notably they wanted the emission factors changed from 1.36 pounds of VOC emitted per 100 pounds of VOC processed to 1.17 pounds of VOC emitted per 100 pounds of VOC processed (per the National Association of Printing Ink Manufacturing emission factor guidance document). They also wanted the annual production limitation raised from 16,126,240 pounds of ink per year to 17,170,000 pounds of ink per year. As a result of the raised production limitation, the group emissions units' emission limitation for organic compounds and particulate will increase. The permittee will maintain the original material usage and VOC content records to demonstrate compliance with the air PTI limitations. The Sun Chemical facility will accept a facility-wide limitation of less than 10 tons per year for each individual HAP and less than 25 tons per year for any combination of HAPs to avoid Title V permit to operate applicability and OAC rule 3745-31-28. The Sun Chemical facility will also keep rolling 12-month summation records to demonstrate compliance with the air PTI limitations.



State of Ohio Environmental Protection Agency

**RE: DRAFT PERMIT TO INSTALL
HAMILTON COUNTY**

CERTIFIED MAIL

Street Address:

Mailing Address:

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Lazarus Gov.
Center

Application No: 14-05917

Fac ID: 1431480237

DATE: 7/5/2007

Sun Chemical
Terry Harris
5020 Spring Grove Avenue
Cincinnati, OH 45232

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43216-1049.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$2300** will be due. Please do not submit any payment now.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

HCDES

OH-KY-IN REG COUN OF GOVTS

KY

IN

HAMILTON COUNTY

PUBLIC NOTICE
ISSUANCE OF DRAFT PERMIT TO INSTALL **14-05917** FOR AN AIR CONTAMINANT SOURCE
FOR **Sun Chemical**

On 7/5/2007 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **Sun Chemical**, located at **12049 Centron Place, Cincinnati**, Ohio.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 14-05917:

Chapter 31 modification to PTI 14-05691.

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Brad Miller, Hamilton County Department of Environmental Services, 250 William Howard Taft Pkwy, Cincinnati, OH 45219-2660 [(513)946-7777]



**Permit To Install
Terms and Conditions**

**Issue Date: To be entered upon final issuance
Effective Date: To be entered upon final issuance**

DRAFT PERMIT TO INSTALL 14-05917

Application Number: 14-05917
Facility ID: 1431480237
Permit Fee: **To be entered upon final issuance**
Name of Facility: Sun Chemical
Person to Contact: Terry Harris
Address: 5020 Spring Grove Avenue
Cincinnati, OH 45232

Location of proposed air contaminant source(s) [emissions unit(s)]:
**12049 Centron Place
Cincinnati, Ohio**

Description of proposed emissions unit(s):
Chapter 31 modification to PTI 14-05691.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

Sun Chemical

Facility ID: 1431480237

PTI Application: 14-05917

Issued: To be entered upon final issuance

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections,

Sun Chemical**Facility ID: 1431480237****PTI Application: 14-05917****Issued: To be entered upon final issuance**

conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

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9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available

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Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only) TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

| <u>Pollutant</u> | <u>Tons Per Year</u> |
|------------------|----------------------|
| OC | 53.0 |
| PE | 7.0 |
| PM10 | 7.0 |
| PM2.5 | 7.0 |
| Single HAP | 9.9 |

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Combined HAPs

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24.9

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P022) - Liquid ink mixer 1 with cover and baghouse

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|--|---|
| OAC rule 3745-31-05(A)(3) | 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. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance. 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 1.44 pounds per hour. |
| ORC 3704.03(T)(4) | See term and condition A.2.h. |

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|---------------------------|--|
| OAC rule 3745-17-08(B)(3) | <p>See term and condition A.2.i.</p> <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.</p> |
|---------------------------|--|

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- 2.b** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.c** Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
- 2.d** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- 2.e** The hourly OC emission limitation outlined is based upon the emissions unit's

Emissions Unit ID: **P022**

potential to emit (PTE). Therefore, no records are required to demonstrate compliance with this limitation.

- 2.f** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.g** The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- 2.h** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE), particulate matter emissions 10 microns and less in diameter (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) 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.
- 2.i** 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.
- 2.j** The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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.

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- 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)].

Emissions Unit ID: P022

- 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 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 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.

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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.

Emissions Unit ID: P022

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

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:

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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:

Emissions Unit ID: **P022**

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.

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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, PM10 and PM2.5, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10-PM2.5 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-PM2.5 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. The terms and conditions in this permit supersede air permit-to-install number 14-4638, as issued on May 12, 1999, air permit-to-Install number 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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

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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").

3. 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 FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P023) - Liquid ink mixer 2 with cover and baghouse

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|--|
| OAC rule 3745-31-05(A)(3) | 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. 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 OC, based on a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance. 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 3745-17-08(B)(3) | See term and condition A.2.i. |
| ORC 3704.03(T)(4) | See term and condition A.2.h. |

Emissions Unit ID: P023

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- 2.b** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.c** Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
- 2.d** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- 2.e** 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.
- 2.f** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

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- 2.g** The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- 2.h** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE), particulate matter emissions 10 microns and less in diameter (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) 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.
- 2.i** 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.
- 2.j** The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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.

Emissions Unit ID: **P023**

*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 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 x (d)].
 - g. The updated rolling, 12-month summation for individual HAP emissions for each

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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.

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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

Emissions Unit ID: **P023**

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

E. Testing Requirements

1. Compliance with the emission, hour and usage limitations in terms and conditions A.1

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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.

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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 PE per pound of pigment AP-42 emission factor)]. (Note: 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

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Manufacturing.

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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.

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h. Emission Limitation:

The uncontrolled potential to emit for PE, PM10 and PM2.5, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10-PM2.5 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-PM2.5 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. The terms and conditions in this permit supersede air permit-to-Install number 14-4638, as issued on May 12, 1999, air permit-to-install number 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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").

Sun Chemical

DTI Application: 14-05017

Facility ID: 1431480237

Emissions Unit ID: P023

3. 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 FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P024) - Liquid ink mixer 3 with cover and baghouse

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | 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) 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. 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 2.36 pounds per hour. |
| ORC 3704.03(T)(4) | See term and condition A.2.h. |
| OAC rule 3745-17-08(B)(3) | See term and condition A.2.i. |

Issued: To be entered upon final issuance**2. Additional Terms and Conditions**

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- 2.b** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.c** Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
- 2.d** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- 2.e** 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.
- 2.f** 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

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of the production rates. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

- 2.g** The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- 2.h** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE), particulate matter emissions 10 microns and less in diameter (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) 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.
- 2.i** 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.
- 2.j** The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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

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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 x (c)].
 - f. The total combined HAP emissions from all inks employed in pounds or tons per

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month [the summation of (b) x 1.17 percent 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

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

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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.

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

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 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 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 2500

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pounds per batch) x (35 percent by weight added pigment) x (0.1% lb 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.

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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, PM10 and PM2.5, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10-PM2.5 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-PM2.5 emission rate was calculated by: [(2500 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 2920

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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. The terms and conditions in this permit supersede air permit-to-install number 14-4638, as issued on May 12, 1999, air permit to install number 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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").
3. 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 FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P026) - Liquid ink mixer 5 with cover and baghouse

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | 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 of OC, based on a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance. 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 0.551 pound per hour. |
| ORC 3704.03(T)(4) | 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

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- 2.b** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.c** Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
- 2.d** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- 2.e** 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.
- 2.f** 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 permittee has existing records to demonstrate

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compliance with this limitation upon permit issuance.

- 2.g** The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- 2.h** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE), particulate matter emissions 10 microns and less in diameter (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) from this air contaminant source since the uncontrolled potential to emit for PE, PM10 and PM2.5, individually, and is less than ten tons per year.
- 2.i** 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.
- 2.j** The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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.

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*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 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 x (d)].

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- 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

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

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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.

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

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 the mixer shall not exceed 1.02 pounds per hour.

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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 PE per pound of pigment AP-42 emission factor)]. (Note: 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

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Manufacturers (NAPIM) Guide to Estimating VOC Emissions from Printing Ink Manufacturing.

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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.

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h. Emission Limitation:

The uncontrolled potential to emit for PE, PM10 and PM2.5, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10-PM2.5 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-PM2.5 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. The terms and conditions in this permit supersede air permit-to-install number 14-4638, as issued on May 12, 1999, air permit-to-install number 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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").

Sun Chemical

DTI Application: 14-05017

Facility ID: 1431480237

Emissions Unit ID: P026

3. 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 FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P027) - Liquid ink mixer 6 with cover and baghouse

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|--|---|
| OAC rule 3745-31-05(A)(3) | 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 of OC, based on a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance. 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 2.03 pounds per hour. |
| ORC 3704.03(T)(4) | See term and condition A.2.h. |
| OAC rule 3745-17-08(B)(3) | See term and condition A.2.i. |

Issued: To be entered upon final issuance**2. Additional Terms and Conditions**

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- 2.b** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.c** Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
- 2.d** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- 2.e** 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.
- 2.f** 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

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of the production rates. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

- 2.g The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- 2.h The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE), particulate matter emissions 10 microns and less in diameter (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) 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.
- 2.i 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.
- 2.j The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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

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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 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 x (d)].

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- 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

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

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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.

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

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 the mixer shall not exceed 4.10 pounds per hour.

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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

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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

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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, PM10 and PM2.5, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10-PM2.5 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-PM2.5 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. The terms and conditions in this permit supersede air permit-to-Install number 14-4638, as issued on May 12, 1999, air permit-to-install number 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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

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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").

3. 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 FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P029) - 0.5 HP air ink mixer

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|--|--|
| OAC rule 3745-31-05(A)(3) | <p>Organic compound (OC) emissions from the mixer shall not exceed 1.33 pounds per hour.</p> <p>See terms and conditions A.2.a.and A.2.e.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).</p> |
| OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review) | <p>Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year (TPY) of OC, based on a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.</p> <p>See terms and conditions A.2.d and A.2.f.</p> |
| 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 3745-21-07(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

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

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- 2.b** 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 de minimis 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

- 2.c** 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.
- 2.d** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.e** The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
- 2.j** The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

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Issued: To be entered upon final issuance

None

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C. Monitoring and/or Recordkeeping 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).

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- 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 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 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.

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

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 the mixer shall not exceed 1.33 pounds per hour.

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Emissions Unit ID: **P029**

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.

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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 from emission units 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 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 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. The terms and conditions in this permit supersede air permit-to-install number 14-4638,

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as issued on May 12, 1999, air permit-to-install number 14-1080, as issued on September 17, 1986 and air permit to install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.

2. 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").
3. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P030) - 0.25 HP air ink mixer

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|--|--|
| OAC rule 3745-31-05(A)(3) | <p>Organic compound (OC) emissions from the mixer shall not exceed 0.36 pound per hour.</p> <p>See terms and conditions A.2.a and A.2.e.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).</p> |
| OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review). | <p>Organic compound (OC) emissions from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033 combined shall not exceed 53.0 tons per year (TPY) of OC, based on a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.</p> <p>See terms and conditions A.2.d and A.2.f.</p> |
| OAC rule 3745-35-07(B) (to avoid being subject to Title V permitting requirements and OAC rule 3745-31-28) | See term 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

- 2.a Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- 2.b The actual emissions of Hazardous Air Pollutants (HAPs), as identified in

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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 de minimis 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

- 2.c** 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.
- 2.d** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.e** The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
- 2.f** The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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

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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 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 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.

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

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 the mixer shall not exceed 0.36 pound per hour.

Emissions Unit ID: P030

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 from emission units 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 95% by

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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. The terms and conditions in this permit supersede air permit-to-install number 14-4638, as issued on May 12, 1999, air permit-to-install number 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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").
3. The following terms and conditions of this installation permit are federally enforceable: A, C, D and E.

Emissions Unit ID: P031

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

- The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P031) - Liquid ink mixer 10 with cover and baghouse

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|
| OAC rule 3745-31-05(A)(3) | Organic compound (OC) emissions from this emission unit 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 of OC, based on a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance. 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 3745-21-07(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 3745-17-07(A)(1) | See term and condition A.2.d. |
| OAC rule 3745-17-07(B)(1) | See term and condition A.2.e. |
| ORC 3704.03(T)(4) | See term and condition A.2.h. |
| OAC rule 3745-17-08(B)(3) | See term and condition A.2.i. |

Issued: To be entered upon final issuance**2. Additional Terms and Conditions**

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emissions limitations.
- 2.b** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.c** Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
- 2.d** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- 2.e** 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.
- 2.f** 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 permittee has existing records to demonstrate

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compliance with this limitation upon permit issuance.

- 2.g The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
- 2.h The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE), particulate matter emissions 10 microns and less in diameter (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) 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.
- 2.i 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.
- 2.j The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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.

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*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 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 x (d)].

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- 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

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

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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.

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

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 emission unit 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

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pound of pigment AP-42 emission factor)]. (Note: 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.

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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.

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h. Emission Limitation:

The uncontrolled potential to emit for PE, PM10 and PM2.5, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10-PM2.5 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-PM2.5 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. The terms and conditions in this permit supersede air permit-to-install number 14-4638, as issued on May 12, 1999, air permit-to-install 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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").

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3. 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 FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P032) - Liquid ink mixer 11 with cover and baghouse

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|--|
| OAC rule 3745-31-05(A)(3) | Organic compound (OC) emissions from this emission unit shall not exceed 11.86 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 of OC, based on a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance. 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 3745-21-07(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 | Particulate emissions (PE) from the mixer shall not exceed 1.75 pounds per hour. |
| 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.e. |
| ORC 3704.03(T)(4) | 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

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- 2.b** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.c** Fugitive visible particulate emissions shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
- 2.d** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- 2.e** 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.
- 2.f** 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 permittee has existing records to demonstrate

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compliance with this limitation upon permit issuance.

- 2.g** The OC content of the inks mixed in this emissions unit shall not exceed 95% by weight.
- 2.h** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE), particulate matter emissions 10 microns and less in diameter (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) 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.
- 2.i** 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.
- 2.j** The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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.

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*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 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 x (d)].

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- 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

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

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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.

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

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 emission unit shall not exceed 11.86 pounds per hour.

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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

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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

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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, PM10 and PM2.5, individually, is less than ten tons per year.

Applicable Compliance Method:

The annual PE-PM10-PM2.5 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-PM2.5 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. The terms and conditions in this permit supersede air permit-to-install number 14-4638, as issued on May 12, 1999, air permit-to-install number 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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

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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").

3. 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 FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment - (P033) - Liquid ink dispenser

| Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|--|--|
| OAC rule 3745-31-05(A)(3) | <p>Organic compound (OC) emissions from this emissions unit shall not exceed 3.28 pounds per hour.</p> <p>See terms and conditions A.2.a and A.2.e.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(C) and 3745-35-07(B).</p> |
| OAC rule 3745-31-05(C) (to avoid being a major stationary source for purposes of non attainment review) | <p>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.</p> <p>See terms and conditions A.2.d and A.2.f.</p> |
| 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 3745-21-07(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

- 2.a Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emission limitations.
- 2.b The actual emissions of Hazardous Air Pollutants (HAPs), as identified in

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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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

- 2.c** 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.
- 2.d** 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 permittee has existing records to demonstrate compliance with this limitation upon permit issuance.
- 2.e** The OC content of the inks mixed in this emissions unit shall not exceed 35% by weight.
- 2.f** The maximum annual operating hours for this emissions unit shall not exceed 3120 hours, based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with this limitation upon permit issuance.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping 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

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

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.

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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.

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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.

3. 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.
4. 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. The terms and conditions in this permit supersede air permit-to-install number 14-4638, as issued on May 12, 1999, air permit-to-install number 14-1080, as issued on September 17, 1986 and air permit-to-install number 14-05691, as issued on June 21, 2005, and modified on March 31, 2006.
2. 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").

Sun Chemical

DTI Application: 14-05017

Facility ID: 1431480237

Emissions Unit ID: P033

3. The following terms and conditions of this installation permit are federally enforceable:
A, C, D and E.

Emissions Unit ID: P033

SIC CODE 2893 SCC CODE 30102053 EMISSIONS UNIT ID P022
 EMISSIONS UNIT DESCRIPTION Liquid ink mixer 1 with cover and baghouse
 DATE INSTALLED 1977

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | Attainment | 0.04 lb/hr | 0.07 | 1.44 lbs/hr | 0.92 TPY |
| PM ₁₀ | Attainment | 0.04 lb/hr | 0.07 | 1.44 lbs/hr | 0.92 TPY |
| Sulfur Dioxide | | | | | |
| Organic Compounds | Non Attainment | 2.46 lbs/hr | 3.8 | 2.46 lbs/hr | 53.0 TPY from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined |
| Nitrogen Oxides | | | | | |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

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

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$NA

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: NA

Emissions Unit ID: P033

SIC CODE 2893 SCC CODE 30102053 EMISSIONS UNIT ID P023
 EMISSIONS UNIT DESCRIPTION Liquid ink mixer 2 with cover and baghouse
 DATE INSTALLED 1977

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | Attainment | 0.03 lb/hr | 0.04 | 0.69 lb/hr | 0.61 TPY |
| PM ₁₀ | Attainment | 0.03 lb/hr | 0.04 | 0.69 lb/hr | 0.61 TPY |
| Sulfur Dioxide | | | | | |
| Organic Compounds | Non Attainment | 1.64 lbs/hr | 2.6 | 1.64 lbs/hr | 53.0 TPY from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined |
| Nitrogen Oxides | | | | | |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
 Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emissions limitations.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No
 OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$NA

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: NA

Emissions Unit ID: P033

SIC CODE 2893 SCC CODE 30102053 EMISSIONS UNIT ID P024
 EMISSIONS UNIT DESCRIPTION Liquid ink mixer 3 with cover and baghouse
 DATE INSTALLED 1977

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | Attainment | 0.06 lb/hr | 0.09 | 2.36 lbs/hr | 1.27 TPY |
| PM ₁₀ | Attainment | 0.06 lb/hr | 0.09 | 2.36 lbs/hr | 1.27 TPY |
| Sulfur Dioxide | | | | | |
| Organic Compounds | Non Attainment | 3.41 lbs/hr | 5.3 | 3.41 lbs/hr | 53.0 TPY from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined |
| Nitrogen Oxides | | | | | |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

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

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$NA

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: NA

Emissions Unit ID: P033

SIC CODE 2893 SCC CODE 30102053 EMISSIONS UNIT ID P027
 EMISSIONS UNIT DESCRIPTION Liquid ink mixer 6 with cover and baghouse
 DATE INSTALLED 1977

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | Attainment | 0.07 lb/hr | 0.11 | 2.03 lbs/hr | 1.53 TPY |
| PM ₁₀ | Attainment | 0.07 lb/hr | 0.11 | 2.03 lbs/hr | 1.53 TPY |
| Sulfur Dioxide | | | | | |
| Organic Compounds | Non Attainment | 4.10 lbs/hr | 6.4 | 4.10 lbs/hr | 53.0 TPY from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined |
| Nitrogen Oxides | | | | | |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
 Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emissions limitations.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No
 OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$NA

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: NA

Sun Chemical
 PTI Application: 14-05917
 Issued: To be entered upon final issuance

Facility ID: 1431480237

Emissions Unit ID: P033

SIC CODE 2893 SCC CODE 30102053 EMISSIONS UNIT ID P029
 EMISSIONS UNIT DESCRIPTION 0.5 HP air ink mixer with cover
 DATE INSTALLED 1977

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | | | | | |
| PM ₁₀ | | | | | |
| Sulfur Dioxide | | | | | |
| Organic Compounds | Non Attainment | 1.33 lb/hr | 2.1 | 1.33 lb/hr | 53.0 TPY from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined |
| Nitrogen Oxides | | | | | |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

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

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$NA

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: NA

Emissions Unit ID: P033

SIC CODE 2893 SCC CODE 30102053 EMISSIONS UNIT ID P031
 EMISSIONS UNIT DESCRIPTION Liquid ink mixer 10 with cover and baghouse
 DATE INSTALLED 07/2003

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | Attainment | 0.03 lb/hr | 0.04 | 0.69 lb/hr | 0.61 TPY |
| PM ₁₀ | Attainment | 0.03 lb/hr | 0.04 | 0.69 lb/hr | 0.61 TPY |
| Sulfur Dioxide | | | | | |
| Organic Compounds | Non Attainment | 4.45 lbs/hr | 6.9 | 4.45 lbs/hr | 53.0 TPY from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined |
| Nitrogen Oxides | | | | | |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

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

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$NA

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: NA

Emissions Unit ID: P033

SIC CODE 2893 SCC CODE 30102053 EMISSIONS UNIT ID P032
 EMISSIONS UNIT DESCRIPTION Liquid ink mixer 11 with cover and baghouse
 DATE INSTALLED 07/2003

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | Attainment | 0.07 lb/hr | 0.12 | 1.75 lbs/hr | 1.62 TPY |
| PM ₁₀ | Attainment | 0.07 lb/hr | 0.12 | 1.75 lbs/hr | 1.62 TPY |
| Sulfur Dioxide | | | | | |
| Organic Compounds | Non Attainment | 11.86 lbs/hr | 18.5 | 11.86 lbs/hr | 53.0 TPY from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined |
| Nitrogen Oxides | | | | | |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
 Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the usage and emissions limitations.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No
 OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$NA

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: NA

Sun Chemical
PTI Application: 14-05917
Issued: To be entered upon final issuance

Facility ID: 1431480237

Emissions Unit ID: **P033**

SIC CODE 2893 SCC CODE 30102053 EMISSIONS UNIT ID P033
 EMISSIONS UNIT DESCRIPTION Liquid ink dispenser
 DATE INSTALLED 01/2003

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | | | | | |
| PM ₁₀ | | | | | |
| Sulfur Dioxide | | | | | |
| Organic Compounds | Non Attainment | 3.28 lbs/hr | 5.1 | 3.28 lbs/hr | 53.0 TPY from emissions units P022, P023, P024, P026, P027, P029, P030, P031, P032 and P033, combined |
| Nitrogen Oxides | | | | | |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

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

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$NA

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: NA