☒ Synthetic Minor Determination and/or ☐ Netting Determination
Permit To Install 08-04196

A. Source Description: Formulabs manufactures inks. There are 49 ink mixing tanks located in one room, which will act as a permanent total enclosure for 100% capture efficiency. The organic compound (OC) emissions from the room will be vented to a regenerative thermal oxidizer with at least 95% destruction efficiency.

B. Facility Emissions and Attainment Status: Formulabs is located in Miami County which is currently designated as attainment for ozone. The potential emissions from the ink mixing room, before add on control are 175.2 TPY OC, 52.56 TPY methyl ethyl ketone (MEK) and 122.64 TPY toluene.

C. Source Emissions: Formulabs has the ink mix room designed as a permanent total enclosure and has installed a regenerative thermal oxidizer to control the OC emissions from this emissions unit. With an overall 95% control efficiency, the allowable emission rates are 8.76 TPY OC, which includes 6.13 TPY Toluene and 2.63 TPY MEK.

D. Conclusion: The potential uncontrolled, OC and hazardous air pollutant (HAP) emissions at Formulabs exceeds the major source thresholds for Title V permitting. However, with the application of a permanent total enclosure, venting the OC emissions to an oxidizer with at least 95% destruction efficiency, the potential controlled OC emission rate is 8.76 TPY. This is well below the major source thresholds for Title V permitting. Therefore, with the application of air pollution control equipment, this facility will be a synthetic minor Title V facility and not subject to Title V permitting requirements.

OhioEPA

State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

RE: DRAFT PERMIT TO INSTALL
MIAMI COUNTY
Application No: 08-04196

DATE: 10/24/2000

CERTIFIED MAIL

Y	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
Y	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

Formulabs/Kimberly-Clark
Sue Mefferd
1710 Commerce Dr
Piqua, OH 45356-0000

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, 43266-0149.

A Permit to Install may be issued in proposed of 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 **$200** 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.

Very truly yours,

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA **RAPCA** **IN**
Miami Valley Reg Plan Com

DRAFT PERMIT TO INSTALL 08-04196

Application Number:	08-04196
APS Premise Number:	0855100399
Permit Fee:	**To be entered upon final issuance**
Name of Facility:	Formulabs/Kimberly-Clark
Person to Contact:	Sue Mefferd
Address:	1710 Commerce Dr Piqua, OH 45356-0000

Location of proposed air contaminant source(s) [emissions unit(s)]:
1710 Commerce Dr
Piqua, **Ohio**

Description of proposed emissions unit(s):
ink manufacturing room.

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

_____
Director

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 Related to Monitoring and Recordkeeping 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 quarterly, i.e., 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, 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.

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 are inadequate 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 prove to be inadequate 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 application must be made to the Director for the installation or modification of any other emissions unit(s).

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available 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 thirty (30) 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

Pollutant	Tons Per Year
OC	**8.76**

C:\temp\permits3\10139.wpd

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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P004 - Ink Manufacturing Room with Permanent Total Enclosure vented to Regenerative Thermal Oxidizer	OAC rule 3745-31-05 (A)(3)	2.0 lbs/hr OC, 8.76 TPY OC; Reference the additional terms and conditions for the control requirements.
	OAC rule 3745-21-07 (G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-21-07 (G)(6)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).

2. Additional Terms and Conditions

2.a When this emissions unit is in operation, the organic compound (OC) emissions from this emissions unit, shall be controlled through the application of a permanent total enclosure (PTE) for 100% capture and vented to a regenerative thermal oxidizer, operating at a minimum OC destruction efficiency of 95%.

B. Operational Restrictions

1. The permanent total enclosure (PTE)* serving this emissions unit shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204, whenever the emissions unit is in operation. The PTE shall meet the following criteria:

   a. any "Natural Draft Opening" (NDO)* shall be at least 4 equivalent diameters from each OC emission point;

C:\temp\permits3\10139.wpd

b. the total area of all NDOs shall not exceed 5% of the surface area of the enclosure's four walls, floor and ceiling;

c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inch of water. The direction of air through all NDOs shall be into the enclosure;

d. all access doors and windows whose areas are not included in paragraph (b) and are not included in the calculation in paragraph (c) shall be closed during routine operation; and

e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - a permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for discharge through a control device.

Natural Draft Opening (NDO) - any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

1. The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than 0.007 inch of water, as a 3-hour average, whenever the emissions unit is in operation.

3. The average temperature of the combustion chamber within the regenerative thermal oxidizer, for any 3-hour period while the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

4. The permittee shall equip each ink mixing tank with a tight fitting cover. All of the mixing tanks are to be covered, at all times during which the regenerative thermal oxidizer is not in operation.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain and operate a monitoring device and a recorder that simultaneously measure and record the pressure inside and outside (i.e. the pressure differential) the permanent total enclosure. The monitoring and recording device shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

C:\temp\permits3\10139.wpd

The permittee shall maintain records of all 3-hour blocks of time during operation which the permanent total enclosure was not maintained at or above the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

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

3. The permittee shall collect and record the following information for each day for the control equipment:

   a. A log of the operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

   b. All 3-hour blocks of time during which the average combustion temperature within the regenerative thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated that the emissions unit was in compliance.

4. The permittee shall collect and record the following information monthly, for the purpose of determining annual organic compound emissions:

   a. The company identification for each ink manufactured and cleanup material employed.

   b. The number of gallons of each ink manufactured and cleanup material employed.

   c. The organic compound content of each ink manufactured and cleanup material, in pounds per gallon.

   d. The total controlled organic compound emission rate for all inks manufactured and cleanup materials, in pounds or tons (i.e., calculated using the overall control efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance).

5. The permit to install for this emissions unit P004 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's “Review of New Sources of Air Toxic Emissions” policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant(s):

C:\temp\permits3\10139.wpd

Pollutant: Toluene
TLV (mg/m3): 188
Maximum Hourly Emission Rate (lbs/hr): 2.0
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3):77.47
MAGLC (ug/m3): 4476

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

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

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

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

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

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

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

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

C:\temp\permits3\10139.wpd

D. Reporting Requirements

1. The permittee shall submit quarterly pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inch of water, as a 3-hour average, when the emissions unit was in operation.

2. The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the regenerative thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent performance test that demonstrated the emissions unit was in compliance.

3. The permittee shall also submit annual reports which specify the total organic compound emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

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

E. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation-
   2.0 lbs/hr organic compounds

   Applicable Compliance Method-
   Compliance shall be based on the organic compound emission rate as determined during the March 28-31, 2000 emissions test of 40 lbs/hr OC, and assuming an overall control efficiency of 95%.

   (40 lbs/hr)(1 - 0.95) = 2.0 lbs/hr OC

   b. Emission Limitation-
   8.76 TPY organic compounds

   Applicable Compliance Method-
   Compliance shall be based upon the record keeping specified in C.4.

2. Emissions Testing Requirement:

   The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

C:\temp\permits3\10139.wpd

a. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs which will be determined as the product of the capture efficiency and the overall control efficiency of the regenerative thermal oxidizer.

b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10" or the approved alternative test protocol (e.g., “the mass balance protocol approved on 10/25/95"). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.”

c. The test(s) shall be conducted while emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

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

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

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

C:\temp\permits3\10139.wpd

F. Miscellaneous Requirements

None

C:\temp\permits3\10139.wpd

NEW SOURCE REVIEW FORM B

PTI Number: 08-04196 Facility ID: 0855100399

FACILITY NAME Formulabs/Kimberly-Clark

FACILITY DESCRIPTION ink manufacturing room. CITY/TWP Piqua

SIC CODE 2851 SCC CODE 4-05-006-01 EMISSIONS UNIT ID P004

EMISSIONS UNIT DESCRIPTION Ink Manufacturing Room

DATE INSTALLED 1985

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	attainment	2.0 lbs/hr	8.76	2.0 lbs/hr	8.76
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

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

Compliance with the applicable regulations and the specified allowable emission limitations through the application of a permanent total enclosure vented to a regenerative thermal oxidizer; record keeping; reporting and testing

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? yes

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

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*? x YES ____ NO

IDENTIFY THE AIR CONTAMINANTS: toluene and MEK

NEW SOURCE REVIEW FORM B

PTI Number: 08-04196 Facility ID: 0855100399

FACILITY NAME Formulabs/Kimberly-Clark

FACILITY DESCRIPTION ink manufacturing room. CITY/TWP Piqua

Ohio EPA Permit to Install Information Form Please describe below any documentation which is being submitted with this recommendation (must be sent the same day). Electronic items should be submitted with the e-mail transmitting the PTI terms, and in software that CO can utilize. If mailing any hard copy, this section must be printed as a cover page. All items must be clearly labeled indicating the PTI name and number. Submit hard copy items to **Pam McGraner**, AQM&P, DAPC, Central Office, and electronic files to **airpti@epa.state.oh.us**

Please fill out the following. If the checkbox does not work, replace it with an 'X'	Electronic	**Additional information** File Name Convention (your PTI # plus this letter)	Hard Copy	None
Calculations (required)	☒	0000000**c**.wpd	☐	
Modeling form/results	☒	0000000**s**.wpd	☐	☐
PTI Application (complete or partial)*	☐	0000000**a**.wpd	☐	☐
BAT Study	☐	0000000**b**.wpd	☐	☐
Other/misc.	☐	0000000**t**.wpd	☐	☐

* Mandatory for netting, PSD, nonattainment NSR, 112(g), 21-07(G)(9)(g) and 21-09(U)(2)(f) - 2 complete copies.

Please complete (see comment bubble to the left for additional instructions):

NSR Discussion

Formulabs is located in Miami County which is currently designated as attainment for ozone. Formulabs used to do wire coating, but in the mid-80's switched to ink manufacturing. There are 49 ink mixing tanks located in one room. They range in size from 5 liter to 200 gallons. Their business varies from day to day depending on their contracts. Usually, they only have a 2 week lead time before they begin to manufacture an ink, once they have a contract with a customer.

In March, 1998 Kimberly-Clark acquired the Formulabs facility in Piqua. At that time it was their understanding that the site did not have a current air permit and did not need one. The Phase I environmental assessment indicated that annual emissions were less than the threshold levels for permitting activities. However, in October, 1999, Kimberly-Clark conducted an internal environmental audit, which raised the question of the accuracy of the emission estimates used to determine the plants emissions.

In order to determine more accurate emission estimates, the company conducted an informal stack test on the single exhaust from HVAC vent for the ink mixing room. The worse case emission estimates determined during the test were as follows: 40 lbs/hr OC (175.2 TPY OC, excluding acetone), 12 lbs/hr MEK (52.56 TPY MEK) and 28 lbs/hr toluene (122.64 TPY toluene).

After the facility evaluated the worst case emission estimates, they decided to add on an oxidizer to control the OC emission rates at least 95%. Also the room which houses the ink mixing tanks is considered a permanent total enclosure with 100% capture efficiency. Once the control equipment and the appropriate monitoring, record keeping and reporting requirements are federally enforceable, the facility will be designated as a synthetic minor Title V facility.

With a 95% overall control efficiency the allowable emission limitations are 2 lbs/hr OC (8.76 TPY OC), 0.60 lb/hr MEK (2.63 TPY MEK), and 1.40 lbs/hr toluene (6.13 TPY toluene). These emission limitations are well below the

NEW SOURCE REVIEW FORM B

PTI Number: 08-04196 Facility ID: 0855100399

FACILITY NAME Formulabs/Kimberly-Clark

FACILITY DESCRIPTION ink manufacturing room. CITY/TWP Piqua

major source thresholds for Title V.

Although there are 49 individual tanks, they are grouped under one emissions unit, P004. This was done for the following reasons: all of the 49 tanks are located in one room, which acts as a permanent total enclosure that is venting all of the OC emissions to an oxidizer for destruction; when evaluated individually, each tank meets the criteria for PTO registration status in OAC 3745-35-05 (B) (which we understand is an acceptable criteria for establishing grouping); it is impossible to keep records on an individual tank basis; and after control, each unit is well below the deminimus thresholds.

The applicable regulations are OAC 3745-31-05 (A)(3), OAC 3745-21-07 (G)(2) and OAC 3745-21-07 (G)(6). The BAT has been determined to be compliance with applicable regulations and specified allowable emission limitations through the application of a permanent total enclosure venting the OC emissions to an oxidizer with at least 95% destruction efficiency; record keeping and reporting.

The air toxics screen 3 model was run for the total emission rate of 2 lbs/hr and compared to the worst case air toxic, which is toluene with a TLV of 188 mg/m^3. The emissions unit was shown to be well below the MAGLC for toluene, therefore, the permittee is in compliance with OEPA's Air Toxic Policy. The screen 3 results were included with the application, electronically.

The fee is $200 for 0-1000 lbs/hr process weight rate.

Jennifer Marsee 8/3/00

Please complete for these type permits (For PSD/NSR Permit, place mouse over this text):

☒ **Synthetic Minor Determination and/or** ☐ **Netting Determination**

Permit To Install **08-04196**

A. Source Description: Formulabs manufactures inks. There are 49 ink mixing tanks located in one room, which will act as a permanent total enclosure for 100% capture efficiency. The organic compound (OC) emissions from the room will be vented to a regenerative thermal oxidizer with at least 95% destruction efficiency.

B. Facility Emissions and Attainment Status: Formulabs is located in Miami County which is currently designated as attainment for ozone. The potential emissions from the ink mixing room, before add on control are 175.2 TPY OC, 52.56 TPY methyl ethyl ketone (MEK) and 122.64 TPY toluene.

C. Source Emissions: Formulabs has the ink mix room designed as a permanent total enclosure and has installed a regenerative thermal oxidizer to control the OC emissions from this emissions unit. With an overall 95% control efficiency, the allowable emission rates are 8.76 TPY OC, which includes 6.13 TPY Toluene and 2.63 TPY MEK.

D. Conclusion: The potential uncontrolled, OC and hazardous air pollutant (HAP) emissions at Formulabs exceeds the major source thresholds for Title V permitting. However, with the application of a permanent total enclosure, venting the OC emissions to an oxidizer with at least 95% destruction efficiency, the potential controlled OC emission rate is 8.76 TPY. This is well below the major source thresholds for Title V permitting.

NEW SOURCE REVIEW FORM B

PTI Number: 08-04196 Facility ID: 0855100399

FACILITY NAME Formulabs/Kimberly-Clark

FACILITY DESCRIPTION ink manufacturing room. CITY/TWP Piqua

Therefore, with the application of air pollution control equipment, this facility will be a synthetic minor Title V facility and not subject to Title V permitting requirements.

PLEASE PROVIDE ADDITIONAL NOTES OR COMMENTS AS NECESSARY:

NONE

Please complete:

SUMMARY (for informational purposes only)

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
OC	8.76