State of Ohio Environmental Protection Agency

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

Mailing Address: Lazarus Gov. Center

RE: DRAFT PERMIT TO INSTALL MODIFICATION **CERTIFIED MAIL**
MONTGOMERY COUNTY
Application No: 08-04232
Fac ID: 0857040727
DATE: 3/13/2008

DuPont Electronic Polymers L.P.
Aaron Smith
1515 Nicholas Rd
Dayton, OH 45418-2700

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install modification for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit modification. 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 modification 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 modification 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 modification a fee of **$ 400** 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, Permit Issuance and Data Management Section at (614) 644-3631.

Sincerely,

Michael W. Ahern

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

CC: **USEPA** **RAPCA** **MIAMI VALLEY REG PLANNING COMM** **KY** **IN**

MONTGOMERY COUNTY

PUBLIC NOTICE
ISSUANCE OF DRAFT PERMIT TO INSTALL **08-04232** FOR AN AIR CONTAMINANT SOURCE
FOR **DuPont Electronic Polymers L.P.**

On 3/13/2008 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **DuPont Electronic Polymers L.P.**, located at **1515 Nicholas Rd, Dayton**, Ohio.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 08-04232:

Administrative modification to include alternate operating scenario and remove CEM requirements.

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.

John Paul, Regional Air Pollution Control Agency, 117 South Main Street, Dayton, OH 45422-1280 [(937)225-4435]

DRAFT MODIFICATION OF PERMIT TO INSTALL 08-04232

Application Number: 08-04232
Facility ID: 0857040727
Permit Fee: **To be entered upon final issuance**
Name of Facility: DuPont Electronic Polymers L.P.
Person to Contact: Aaron Smith
Address: 1515 Nicholas Rd
Dayton, OH 45418-2700

Location of proposed air contaminant source(s) [emissions unit(s)]:
1515 Nicholas Rd
Dayton, **Ohio**

Description of proposed emissions unit(s):
Administrative modification to include alternate operating scenario and remove CEM requirements.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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 source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
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

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,

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 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 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

Pollutant	Tons Per Year
OC	***3.62***
Individual HAPS	***3.62***
Combined HAPS	***3.62***

Emissions Unit ID: **P025**

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
P025 - Conical Dryer D3 system which includes XS-200 dryer condenser, 300 gallon T-67 receiver, XS-400-1 condenser, 500 gallon 3P receiver, and activated carbon bed	OAC rule 3745-31-05(A)(3)	Organic compound (OC) emissions from emissions units P025 and P027 shall not exceed 0.83 lb/hr, 19.8 lbs/day and 3.62 tons per year (TPY)
	OAC rule 3745-21-07(M)(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 3745-31-05(C) (synthetic minor to avoid Title V)	Individual and combined hazardous air pollutant (HAP) emissions from emissions units P025 and P027 shall not exceed 3.62 tons per rolling 12-month period.

2. Additional Terms and Conditions

2.a The 0.83 lb/hr OC limitation was established to reflect potential to emit for emissions units P025 and P027. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

2.*b* Within 180 days of the effective date of this permit, the permittee shall submit an

operational and maintenance plan for the carbon adsorption unit which describes the monitoring and the carbon adsorber change-out procedures.

B. Operational Restrictions

1. The OC emissions from emissions units P025 and P027 shall be vented to a carbon adsorber operating at a minimum of 95% overall OC control efficiency when the emissions unit is in operation and in methylene chloride service.

   "In methylene chloride service" means that the emissions unit contains or contacts methylene chloride.

C. Monitoring and/or Recordkeeping Requirements

1. In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average OC concentration (in ppm) of the exhaust gases from the carbon adsorber, for any 3-hour block of time, shall not be more than 1200 ppm.

2. The permittee shall properly install, operate, and maintain a continuous organic monitoring device and recorder which measures and records the OC concentrations in the exhaust gases from the carbon adsorber when the emissions unit(s) is/are in operation and in methylene chloride service. The monitoring and recording devices shall be capable of accurately measuring the OC concentration in ppm. The organic monitoring device and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals. The permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

   a. all 3-hour blocks of time, when the emissions unit(s) controlled by the carbon adsorber was/were in operation and in methylene chloride service, during which the average OC concentration in the exhaust gases was more than 1200 ppm; and

   b. a log of the downtime for the capture (collection) system, carbon adsorber, and monitoring equipment when the associated emissions unit(s) was/were in operation and in methylene chloride service.

   These records shall be maintained at the facility for a period of three years.

3. Whenever the monitored average OC concentration of the exhaust gases from the

carbon adsorber deviates from the limit specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. the OC concentration immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

4. The permittee shall collect and record the following information each day for emissions units P025 and P027:

a. The company identification for each organic material employed.

b. The total quantity of each organic material employed, in pounds.

c. The OC content of each organic material, in pounds of OC per pound of organic material.

d. The total individual OC emission rate calculated using engineering calculations and monitoring/testing data, in pounds per day.

e. Whether emissions units P025 or P027 were in methylene chloride service.

5. The company has sufficient records to demonstrate compliance with the HAPs limitation for the initial months of operation. To determine continual compliance, the permittee shall collect and record the following information each month for emissions units P025 and P027:

a. The company identification for each organic material employed.

b. The total quantity of each organic material employed, in pounds .

c. The HAP content of each organic material, in pounds of individual HAP per pound of organic material.

d. The total individual HAP emission rate for each HAP calculated using engineering calculations and monitoring/testing data, in tons per month and tons per rolling 12-month period.

e. The total combined HAP emission rate (the sum of all the individual HAP emission rates from Section C.4.d above), in tons per month and tons per rolling 12-month period.

* A listing of the Hazardous Air Pollutants (HAPs) can be found in Section 112 (b) of the Clean Air Act or can be obtained by contacting your Ohio EPA office or local air agency contact.

6. The permit to install for this emissions unit was evaluated based on the actual 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:

Pollutant: Methylene Chloride

TLV (mg/m3): 173.68

Maximum Hourly Emission Rate (lbs/hr) = 1.2

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3) = 206.8

MAGLC (ug/m3): 4130

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, 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permitteee 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.

Within two weeks of performing the evaluation to determine if the changed emissions unit will still satisfy the "Air Toxic Policy", the permittee shall submit a report to the Regional Air Pollution Control Agency (RAPCA) which describes the parameters changed, the determination of the evaluation, and a copy of the computer model runs.

D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify:

   a. all 3-hour blocks of time during which the average OC concentration of the exhaust gases from the carbon adsorber was more than 1200 ppm; and

   b. any records of downtime (date and length of time) for the capture (collection) system, the carbon adsorber, or the monitoring equipment when the emissions unit(s) was/were in operation and in methylene chloride service.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous

calendar quarter.

2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the carbon adsorber during the operation of the emissions unit(s):

   a. each period of time when the average OC concentration of the exhaust gases from the carbon adsorber was outside of the acceptable value;

   b. an identification of each incident of deviation described in "a" (above), where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in "a", where prompt corrective action, that would bring the OC concentration into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in "a", where proper records were not maintained for the investigation and/or the corrective action(s).

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

3. The permittee shall submit quarterly deviation (excursion) reports that identify the following information:

   a. an identification of each day during which the OC emissions from emissions units P025 and P027 exceeded 19.8 pounds per day, and the actual OC emissions for each such day;

   b. all exceedances of the rolling, 12-month individual HAP emission limitation for each HAP for emissions units P025 and P027; and

   c. all exceedances of the rolling, 12-month total combined HAPs emission limitation for emissions units P025 and P027.

4. The facility shall submit annual reports to the Director (appropriate District Office or local air agency) which specify the total OC emissions, the individual HAPs emissions, and the total HAPs emissions from emissions units P025 and P027. These reports shall be submitted by April 15 of each calendar year.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.1 of these terms and conditions shall be determined in accordance with the following method(s):

   a. Emission Limitation-
   OC emissions from emissions units P025 and P027 shall not exceed 0.83 lb/hr.

   Applicable Compliance Method-
   Compliance shall be based on the following calculations:

   OC emissions from emissions unit P025 are calculated as follows:
   Assumption: Inert gas streams (air or nitrogen) become saturated with methylene chloride ($MeCl_2$), resulting in molar concentrations in the total stream at atmospheric pressure) of:
   Mole Fraction $MeCl_2$ = 160 mmHg / 760 mmHg = 0.21
   Mole Fraction Inert Gas = 1 - (160 mmHg / 760 mmHg) = 0.79

   D3 Dryer Volume = 3 m^3 = 106 ft^3
   Receiver Volume = 300 gallons = 40 ft^3
   System Volume = (106 ft^3 + 40 ft^3) * 1.15 (safety factor)
   System Volume = 168 ft^3

   Maximum air leakage = 4.3 pounds of air/hour

   Mole flow of air = Air Leakage Rate (lbs/hr)/ 29 pounds/mole*
   *1 mole of air = 29 lbs of air

   Mole flow of air = (4.3 lbs/hr) / (29 lbs/mole) = 0.148 moles/hr

   A nitrogen purge is sometimes desired to assist the last stages of drying. At a maximum nitrogen purge flow of 1.3 SCFM:

   Mole flow of nitrogen = (1.3 SCFM)(60 min/hr)(mole/359 SCF**) = 0.217 moles/hr
   ** 1 mole of gas occupies 359 standard cubic feet at standard temperature/pressure

   Total non-condensable mole flow = mole flow of air + mole flow of nitrogen = 0.148 moles/hr + 0.217 moles/hr = 0.365 moles/hr

Total saturated molar flow = (0.365 moles/hr)/(0.79 mole fraction of air) = 0.46 moles/hr

Mole Fraction of $MeCl_2$ = 0.21, so mole flow of $MeCl_2$ = (0.21)(0.46 moles/hr) = 0.0966 mole/hr

Weight of $MeCl_2$ to carbon adsorber = (0.0966 mole/hr)(84.94 lbs/mole) = 8.21 lbs/hr

Carbon adsorber , 95% control efficiency
(8.21 lbs/hr)(1- 0.95) = 0.41 lb/hr

OC emissions from emissions unit P027 are calculated as follows:
Assumption: Inert gas streams (air or nitrogen) become saturated with $MeCl_2$, resulting in molar concentrations in the total stream at atmospheric pressure) of:

Mole Fraction $MeCl_2$ = 160 mmHg / 760 mmHg = 0.21
Mole Fraction Inert Gas = 1 - (160 mmHg / 760 mmHg) = 0.79

Nitrogen purge flow rate of 2.2 SCFM

Mole flow of nitrogen = (2.2 SCFM)(60 min/hr)(mole/359 SCF) = 0.368 moles/hr

Total saturated molar flow = (0.368 moles/hr)/(0.79 mole fraction air) = 0.465 moles/hr

Mole Fraction of $MeCl_2$ = 0.21, so mole flow of $MeCl_2$ = (0.21)(0.465 moles/hr) = 0.0977 mole/hr

Weight of $MeCl_2$ to carbon adsorber = (0.0977 mole/hr)(84.94 lbs/mole) = 8.30 lbs/hr

Carbon adsorber, 95% control efficiency
(8.30 lbs/hr)(1- 0.95) = 0.415 lb/hr

Total OC emissions from emissions units P025 and P027:
0.41 lb/hr + 0.415 lb/hr = 0.83 lb/hr

Potential hourly emissions from operation of emissions units P025 and P027 when not in methylene chloride service are less than the methylene chloride service-based emissions shown above.

b. Emission Limitation-
OC emissions from emissions units P025 and P027 shall not exceed 19.8 lbs/day.

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

c. Emission Limitation-
OC emissions from emissions units P025 and P027 shall not exceed 3.62 TPY.

Applicable Compliance Method-
Compliance shall be based upon record keeping as specified in C.4 and shall be the sum of the OC emission rates for the calendar year, divided by 2000 lbs/ton.

d. Emission Limitation-
Individual and combined HAP emissions from emissions units P025 and P027 shall not exceed 3.62 tons per rolling 12-month period.

Applicable Compliance Method-
Compliance shall be based upon record keeping as specified in Section C.5.

F. Miscellaneous Requirements

None

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
P027 - HF-600 centrifuge system, 500 gallon slurry tank TG-500-1, 1500 gallon 2P tank, 1000 gallon knock-out pot, 3-R condenser, 2900 gallon 4Q filtrate receiver, 4Q condenser, 2600 gallon filtrate receiver, and activated carbon bed	OAC rule 3745-31-05(A)(3)	Organic compound (OC) emissions from emissions units P025 and P027 shall not exceed 0.83 lb/hr, 19.8 lbs/day and 3.62 tons per year (TPY).
	OAC rule 3745-21-07(M)(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 3745-31-05(C) (synthetic minor to avoid Title V)	Individual and combined hazardous air pollutant (HAP) emissions from emissions units P025 and P027 shall not exceed 3.62 tons per rolling 12-month period.

2. Additional Terms and Conditions

2.a The 0.83 lb/hr OC limitation was established to reflect potential to emit for emissions units P025 and P027. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

2.*b* Within 180 days of the effective date of this permit, the permittee shall submit an operational and maintenance plan for the carbon adsorption unit which describes the monitoring and the carbon adsorber change-out procedures.

B. Operational Restrictions

1. The OC emissions from emissions units P025 and P027 shall be vented to a carbon absorber operating at a minimum of 95% overall OC control efficiency when the emissions unit is in operation and in methylene chloride service.

   "In methylene chloride service" means that the emissions unit contains or contacts methylene chloride.

C. Monitoring and/or Recordkeeping Requirements

1. In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average OC concentration (in ppm) of the exhaust gases from the carbon absorber, for any 3-hour block of time, shall not be more than 1200 ppm.

2. The permittee shall properly install, operate, and maintain a continuous organic monitoring device and recorder which measures and records the OC concentrations in the exhaust gases from the carbon absorber when the emissions unit(s) is/are in operation and in methylene chloride service. The monitoring and recording devices shall be capable of accurately measuring the OC concentration in ppm. The organic monitoring device and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals. The permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

   a. all 3-hour blocks of time, when the emissions unit(s) controlled by the carbon absorber was/were in operation and in methylene chloride service, during which the average OC concentration in the exhaust gases was more than 1200 ppm; and

   b. a log of the downtime for the capture (collection) system, carbon absorber, and monitoring equipment when the associated emissions unit(s) was/were in operation and in methylene chloride service.

   These records shall be maintained at the facility for a period of three years.

3. Whenever the monitored average OC concentration of the exhaust gases from the

carbon absorber deviates from the limit specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. the OC concentration immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

4. The permittee shall collect and record the following information each day for emissions units P025 and P027:

a. The company identification for each organic material employed.

b. The total quantity of each organic material employed, in pounds.

c. The OC content of each organic material, in pounds of OC per pound of organic material.

d. The total individual OC emission rate calculated using engineering calculations and monitoring/testing data, in pounds per day.

e. Whether emissions units P025 or P027 were in methylene chloride service.

5. The company has sufficient records to demonstrate compliance with the HAPs limitation for the initial months of operation. To determine continual compliance, the permittee shall collect and record the following information each month for emissions units P025 and P027:

a. The company identification for each organic material employed.

b. The total quantity of each organic material employed, in pounds .

c. The HAP content of each organic material, in pounds of individual HAP per pound of organic material.

d. The total individual HAP emission rate for each HAP calculated using engineering calculations and monitoring/testing data, in tons per month and tons per rolling 12-month period.

e. The total combined HAP emission rate (the sum of all the individual HAP emission rates from Section C.4.d above), in tons per month and tons per rolling 12-month period.

* A listing of the Hazardous Air Pollutants (HAPs) can be found in Section 112 (b) of the Clean Air Act or can be obtained by contacting your Ohio EPA office or local air agency contact.

6. The permit to install for this emissions unit was evaluated based on the actual 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:

Pollutant: Methylene Chloride

TLV (mg/m3): 173.68

Maximum Hourly Emission Rate (lbs/hr) = 1.2

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3) = 206.8

MAGLC (ug/m3): 4130

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, 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, 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.

Within two weeks of performing the evaluation to determine if the changed emissions unit will still satisfy the "Air Toxic Policy", the permittee shall submit a report to the Regional Air Pollution Control Agency (RAPCA) which describes the parameters changed, the determination of the evaluation, and a copy of the computer model runs.

D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify:

   a. all 3-hour blocks of time during which the average OC concentration of the exhaust gases from the carbon absorber was more than 1200 ppm; and

   b. any records of downtime (date and length of time) for the capture (collection) system, the carbon absorber, or the monitoring equipment when the emissions unit(s) was/were in operation and in methylene chloride service.

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the carbon absorber during the operation of the emissions unit(s):

   a. each period of time when the average OC concentration of the exhaust gases from the carbon absorber was outside of the acceptable value;

   b. an identification of each incident of deviation described in "a" (above), where a prompt investigation was not conducted;

   c. an identification of each incident of deviation described in "a", where prompt corrective action, that would bring the OC concentration into compliance with the acceptable value, was determined to be necessary and was not taken; and

   d. an identification of each incident of deviation described in "a", where proper records were not maintained for the investigation and/or the corrective action(s).

   These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

3. The permittee shall submit quarterly deviation (excursion) reports that identify the following information:

   a. an identification of each day during which the OC emissions from emissions units P025 and P027 exceeded 19.8 pounds per day, and the actual OC emissions for each such day;

   b. all exceedances of the rolling, 12-month individual HAP emission limitation for each HAP for emissions units P025 and P027; and

   c. all exceedances of the rolling, 12-month total combined HAPs emission limitation for emissions units P025 and P027.

4. The facility shall submit annual reports to the Director (appropriate District Office or local air agency) which specify the total OC emissions, the individual HAPs emissions, and the total HAPs emissions from emissions units P025 and P027. These reports shall be submitted by April 15 of each calendar year.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.1 of these terms and conditions shall be determined in accordance with the following method(s):

   a. Emission Limitation-
   OC emissions from emissions units P025 and P027 shall not exceed 0.83 lb/hr.

   Applicable Compliance Method-
   Compliance shall be based on the following calculations:

   OC emissions from emissions unit P025 are calculated as follows:
   Assumption: Inert gas streams (air or nitrogen) become saturated with methylene chloride ($MeCl_2$), resulting in molar concentrations in the total stream at atmospheric pressure) of:
   Mole Fraction $MeCl_2$ = 160 mmHg / 760 mmHg = 0.21
   Mole Fraction Inert Gas = 1 - (160 mmHg / 760 mmHg) = 0.79

   D3 Dryer Volume = 3 m^3 = 106 ft^3
   Receiver Volume = 300 gallons = 40 ft^3
   System Volume = (106 ft^3 + 40 ft^3) * 1.15 (safety factor)
   System Volume = 168 ft^3

   Maximum air leakage = 4.3 pounds of air/hour

   Mole flow of air = Air Leakage Rate (lbs/hr)/ 29 pounds/mole*
   *1 mole of air = 29 lbs of air

   Mole flow of air = (4.3 lbs/hr) / (29 lbs/mole) = 0.148 moles/hr

   A nitrogen purge is sometimes desired to assist the last stages of drying. At a maximum nitrogen purge flow of 1.3 SCFM:

   Mole flow of nitrogen = (1.3 SCFM)(60 min/hr)(mole/359 SCF**) = 0.217 moles/hr
   ** 1 mole of gas occupies 359 standard cubic feet at standard temperature/pressure

   Total non-condensable mole flow = mole flow of air + mole flow of nitrogen = 0.148 moles/hr + 0.217 moles/hr = 0.365 moles/hr

Total saturated molar flow = (0.365 moles/hr)/(0.79 mole fraction of air) = 0.46 moles/hr

Mole Fraction of $MeCl_2$ = 0.21, so mole flow of $MeCl_2$ = (0.21)(0.46 moles/hr) = 0.0966 mole/hr

Weight of $MeCl_2$ to carbon absorber = (0.0966 mole/hr)(84.94 lbs/mole) = 8.21 lbs/hr

Carbon absorber , 95% control efficiency
(8.21 lbs/hr)(1- 0.95) = 0.41 lb/hr

OC emissions from emissions unit P027 are calculated as follows:
Assumption: Inert gas streams (air or nitrogen) become saturated with $MeCl_2$, resulting in molar concentrations in the total stream at atmospheric pressure) of:

Mole Fraction $MeCl_2$ = 160 mmHg / 760 mmHg = 0.21
Mole Fraction Inert Gas = 1 - (160 mmHg / 760 mmHg) = 0.79

Nitrogen purge flow rate of 2.2 SCFM

Mole flow of nitrogen = (2.2 SCFM)(60 min/hr)(mole/359 SCF) = 0.368 moles/hr

Total saturated molar flow = (0.368 moles/hr)/(0.79 mole fraction air) = 0.465 moles/hr

Mole Fraction of $MeCl_2$ = 0.21, so mole flow of $MeCl_2$ = (0.21)(0.465 moles/hr) = 0.0977 mole/hr

Weight of $MeCl_2$ to carbon absorber = (0.0977 mole/hr)(84.94 lbs/mole) = 8.30 lbs/hr

Carbon absorber, 95% control efficiency
(8.30 lbs/hr)(1- 0.95) = 0.415 lb/hr

Total OC emissions from emissions units P025 and P027:
0.41 lb/hr + 0.415 lb/hr = 0.83 lb/hr

Potential hourly emissions from operation of emissions units P025 and P027 when not in methylene chloride service are less than the methylene chloride service-based emissions shown above.

b. Emission Limitation-
OC emissions from emissions units P025 and P027 shall not exceed 19.8 lbs/day.

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

c. Emission Limitation-
OC emissions from emissions units P025 and P027 shall not exceed 3.62 TPY.

Applicable Compliance Method-
Compliance shall be based upon record keeping as specified in C.4 and shall be the sum of the OC emission rates for the calendar year, divided by 2000 lbs/ton.

d. Emission Limitation-
Individual and combined HAP emissions from emissions units P025 and P027 shall not exceed 3.62 tons per rolling 12-month period.

Applicable Compliance Method-
Compliance shall be based upon record keeping as specified in Section C.5.

F. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 08-04232 Facility ID: 0857040727

FACILITY NAME ChemFirst Fin Chemicals Inc

FACILITY DESCRIPTION HF-600 centrifuge system, 2 conical CITY/TWP Dayton

Emissions Unit ID: **P027**

SIC CODE 2821 SCC CODE 30101820 EMISSIONS UNIT ID P025

EMISSIONS UNIT DESCRIPTION Conical Dryer D3 system which includes XS-200 dryer condenser, 300 gallon T-67 receiver, XS-400-1 condenser, 500 gallon 3P receiver, and activated carbon bed

DATE INSTALLED 1997

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	lb/hr	0.40	1.81	0.40	1.81
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?

Enter Determination: Compliance with the limitations specified in the permit, control by a carbon absorber, record keeping, CEM monitoring

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: methylene chloride

10391.wpd

NEW SOURCE REVIEW FORM B

PTI Number: 08-04232 Facility ID: 0857040727

FACILITY NAME ChemFirst Fin Chemicals Inc

FACILITY DESCRIPTION HF-600 centrifuge system, 2 conical CITY/TWP Dayton

Emissions Unit ID: **P027**

SIC CODE 2821 SCC CODE 30101820 EMISSIONS UNIT ID P026

EMISSIONS UNIT DESCRIPTION Conical Dryer D5 system which includes the dryer condenser, D-5 200 gallon receiver, XS-400-1 condenser, a 500 gallon 3P receiver and the activated carbon bed

DATE INSTALLED 1997

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	lb/hr	0.40	1.81	0.40	1.81
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?

Enter Determination: Compliance with the limitations specified in the permit, control by a carbon absorber, record keeping, CEM monitoring

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: methylene chloride

10391.wpd

NEW SOURCE REVIEW FORM B

PTI Number: 08-04232 Facility ID: 0857040727

FACILITY NAME ChemFirst Fin Chemicals Inc

FACILITY DESCRIPTION HF-600 centrifuge system, 2 conical CITY/TWP Dayton

Emissions Unit ID: **P027**

SIC CODE 2821 SCC CODE 30101818 EMISSIONS UNIT ID P027

EMISSIONS UNIT DESCRIPTION HF-600 centrifuge system, 500 gallon slurry tank TG-500-1, 1500 gallon 2P tank, 1000 gallon knock-out pot, 3-R condenser, 2900 gallon 4Q filtrate receiver, 4Q condenser, 2600 gallon filtrate receiver, and activated carbon bed

DATE INSTALLED 1997

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	lb/hr	0.40	1.81	0.40	1.81
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?

Enter Determination Compliance with the limitations specified in the permit, control by a carbon absorber, record keeping, CEM monitoring

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: methylene chloride

3

NEW SC

PTI Num

FACILIT

Emissions Unit ID: **P027**

FACILITY DESCRIPTION	HF-600 centrifuge system, 2 conical dryers.	CITY/TWP	Dayton