



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
CUYAHOGA COUNTY**

CERTIFIED MAIL

Street Address:

50 West Town Street, Suite 700

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

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 13-04690

Fac ID: 1318000359

DATE: 3/13/2007

Euclid Chemical Company
Glenn Kotnik
3757 Green Road
Beachwood, OH 44122

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

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.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

Sincerely,

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

CC: USEPA

CLAA



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

Issue Date: 3/13/2007

FINAL PERMIT TO INSTALL 13-04690

Application Number: 13-04690
Facility ID: 1318000359
Permit Fee: **\$1500**
Name of Facility: Euclid Chemical Company
Person to Contact: Glenn Kotnik
Address: 3757 Green Road
Beachwood, OH 44122

Location of proposed air contaminant source(s) [emissions unit(s)]:

**19218 Redwood Road
Cleveland, Ohio**

Description of proposed emissions unit(s):

Use of two new solvents in existing Tote Blending and In-Line Blending processes -- P006 and P007.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Chris Korleski
Director

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

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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)

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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.

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

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

14. Construction Compliance Certification

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

15. Fees

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

B. Permit to Install Summary of Allowable Emissions

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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
OC	51.60

Emissions Unit ID: P006

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 - (P006) - 350 gallon tote, mixer, transfer pump

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	Organic compound (OC) emissions shall not exceed 2.53 lbs/hr and 11.08 tons/year.
OAC rule 3745-21-07(G)(2)	See Additional Terms and Conditions A.2.a below.

2. Additional Terms and Conditions

- 2.a This emissions unit is exempt from the requirements of OAC rule 3745-21-07(G)(2) based on the fact that there is no chemical reaction taking place; there is only mixing occurring in this process.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each day for emissions unit P006:
 - a. the company identification of each final product produced;
 - b. the vapor pressure of the loaded material for each batch (according to MSDS of each material), in psia;
 - c. the volume of the each material loaded, in gallons for each step of the batch;
 - d. the molecular weight of each material loaded, in lb/lb mole;
 - e. the blend time per batch, in hours;

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- f. the flow rate of the purge into the vessel, in ft³/min;
- g. the temperature of the exhaust gas (conservatively determined by measuring the temperature of the final product);
- h. the total emissions for each batch produced (calculated as shown by the equations and methodologies in section E.1.a), in pounds; and
- i. the annual summation of the OC emissions [sum of (h)], in tons.

D. Reporting Requirements

- 1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the short-term (lb/hr) emission limitation for OC. These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, section A of this permit.

E. Testing Requirements

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

- a. Emission Limitation

OC emissions shall not exceed 2.53 lbs/hour.

Applicable Compliance Method

Compliance shall be based off of the record keeping found in section C.1 and the following equations taken from the STAPPA/ALAPCO-EPA document, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8."

Loading or Packaging Loss Equation, EIIP Equation 8.4-1

$$Evoc = (12.46)(S)(P)(M)(Q)/(T)$$

Where:

12.46 = Universal gas constant

S = Saturation factor

Emissions Unit ID: P006

P = System vapor pressure, (psia)
 M = Vapor molecular weight, (lb/lb mole)
 Q = Volume of material loaded, (1000 gal)
 T = Temperature of liquid loaded, (R)

Purge Equation, EIIP Equation 8.4-23

$$E_{XP} = ((P_x)(F)(M_x)(60)(OH)/(R)(T)) * (PT)/(PT - \text{sum}P_x)$$

Where:

E_{XP} = Emission of VOC species x, (lbs)
 P_x = Partial pressure of VOC species x, (psia)
 F = Flow rate into vessel, (ft³/min)
 M_x = Molecular weight of VOC species x, (lb/lb-mole)
 60 = Minutes per hour
 OH = Hours of purge, (hr)
 R = 10.73 gas constant
 T = Temperature of exhaust gas, (R)
 PT = Total system pressure, (psia)

Windage Loss Equation, EIIP Equation 8.4-22

$$E_{voc} = ((M_x * K_x * A * P_x * 3600 * H) / (R * T)) * B$$

Where:

M_x = Molecular Weight
 K_x = Gas-phase mass transfer
 A = Exposed Area
 P_x = Vapor Pressure
 3600 = 3,600 seconds/hr
 H = Blend time
 R = gas constant = 10.73
 T = Temperature (Racine)
 B = batches/year

The mixing cycle steps for vessel filling and packaging shall use the loading loss EIIP equation 8.4-1. Vessel purging shall use the purge EIIP Equation 8.4-23. The mixing cycle step for material blending shall use the windage loss EIIP Equation 8.4-22. Any contributing fugitive emissions shall be calculated using SOCM I emission factors found in "Protocol for Equipment Leak Emission Estimates" EPA453/R-95-017, November 1995. Any additional batch cycle steps shall be calculated using the equations contained in the STAPPA/ALAPCO-EPA documents, "Emission Inventory Improvement Program

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(EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8 and/or Methods for Estimating Air emissions from Chemical Manufacturing Facilities, Volume II: Chapter 16." The short-term (lb/hr) emissions shall be determined by summing the values calculated from all cycle steps and adding any contributing fugitive emissions calculated.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the VOC emission limitation shall be determined through emission testing conducted in accordance with U.S. EPA Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method.

b. Emission Limitation

OC emissions shall not exceed 11.08 tons/year

Applicable Compliance Method

The annual emission limitation (ton/year) was established by multiplying the short-term (lb/hr) emission limitation by 8,760 hours of operation per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the short-term emission limitation.

F. Miscellaneous Requirements

None

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

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (P007) - Static Mixer w/ 350 gallon hold tank

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	Organic compound (OC) emissions shall not exceed 9.25 lbs/hr and 40.52 tons/year.
OAC rule 3745-21-07(G)(2)	See Additional Terms and Conditions A.2.a below.

2. Additional Terms and Conditions

- 2.a This emissions unit is exempt from the requirements of OAC rule 3745-21-07(G)(2) based on the fact that there is no chemical reaction taking place; there is only mixing occurring in this process.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information each day for emissions unit P007:
 - a. the company identification of each final product produced;
 - b. the vapor pressure of the loaded material for each batch (according to MSDS of each material), in psia;
 - c. the volume of the each material loaded, in gallons for each step of the batch;
 - d. the molecular weight of each material loaded, in lb/lb mole;

- e. the flow rate of the purge into the vessel, in ft³/min;
- f. the temperature of the exhaust gas (conservatively determined by measuring the temperature of the final product);
- g. the total emissions for each batch produced (calculated as shown by the equations and methodologies in section E.1.a), in pounds; and
- h. the annual summation of the OC emissions [sum of (h)], in tons.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the short-term (lb/hr) emission limitation for OC. These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, section A of this permit.

E. Testing Requirements

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

- a. Emission Limitation

OC emissions shall not exceed 9.25 lbs/hour.

- a. Applicable Compliance Method

Compliance shall be based off of the record keeping found in section C.1 and the following equations taken from the STAPPA/ALAPCO-EPA document, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8."

Loading or Packaging Loss Equation, EIIP Equation 8.4-1

$$Evoc = (12.46)(S)(P)(M)(Q)/(T)$$

Where:

12.46 = Universal gas constant

S = Saturation factor

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P = System vapor pressure, (psia)
 M = Vapor molecular weight, (lb/lb mole)
 Q = Volume of material loaded, (1000 gal)
 T = Temperature of liquid loaded, (R)

Windage Loss Equation, EIIP Equation 8.4-22

$$E_{voc} = ((M_x * K_x * A * P_x * 3600 * H) / (R * T)) * B$$

Where:

M_x = Molecular Weight
 K_x = Gas-phase mass transfer
 A = Exposed Area
 P_x = Vapor Pressure
 3600 = 3,600 seconds/hr
 H = Blend time
 R = gas constant = 10.73
 T = Temperature (Racine)
 B = batches/year

The mixing cycle steps for vessel filling and packaging shall use the loading loss EIIP equation 8.4-1. The mixing cycle step for material blending shall use the windage loss EIIP Equation 8.4-22. Any contributing fugitive emissions shall be calculated using SOCM emission factors found in "Protocol for Equipment Leak Emission Estimates" EPA453/R-95-017, November 1995. Any additional batch cycle steps shall be calculated using the equations contained in the STAPPA/ALAPCO-EPA documents, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8 and/or Methods for Estimating Air emissions from Chemical Manufacturing Facilities, Volume II: Chapter 16." The short-term (lb/hr) emissions shall be determined by summing the values calculated from all cycle steps and adding any contributing fugitive emissions calculated.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the VOC emission limitation shall be determined through emission testing conducted in accordance with U.S. EPA Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method.

b. Emission Limitation

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OC emissions shall not exceed 40.52 tons/year

Applicable Compliance Method

The annual emission limitation (ton/year) was established by multiplying the short-term (lb/hr) emission limitation by 8,760 hours of operation per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the short-term emission limitation.

F. Miscellaneous Requirements

None