



State of Ohio Environmental Protection Agency

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

CERTIFIED MAIL

Street Address:

122 S. Front Street

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

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 04-01378

Fac ID: 0448011550

DATE: 2/10/2005

Dynea USA Inc
Stephanie Heldt
6175 American Rd
Toledo, OH 43612

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 by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. 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, Ohio 43215

Sincerely,

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

CC: USEPA

TDES



**Permit To Install
Terms and Conditions**

**Issue Date: 2/10/2005
Effective Date: 2/10/2005**

FINAL PERMIT TO INSTALL 04-01378

Application Number: 04-01378
Facility ID: 0448011550
Permit Fee: **\$1850**
Name of Facility: Dynea USA Inc
Person to Contact: Stephanie Heldt
Address: 6175 American Rd
Toledo, OH 43612

Location of proposed air contaminant source(s) [emissions unit(s)]:
**6175 American Rd
Toledo, Ohio**

Description of proposed emissions unit(s):
Kettle 1 modification and addition of federally enforceable emission limitations.

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

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

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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.

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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>
VOC	39.2(0.35 tpy increase)

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P001 - Kettle 1 modification/ Urea-formaldehyde and phenol-formaldehyde resin manufacturing process with wet scrubber and electrically heated catalytic oxidizer control	OAC rule 3745-31-05(A)(3)	0.22 pound per hour and 0.96 ton per year volatile organic compounds (VOC). Visible particulate emissions from the catalytic incinerator stack shall not exceed 0% opacity, as a 6-minute average.
	OAC rule 3745-21-09(DD)	0.137 pound per hour and 0.6 ton per year formaldehyde emissions; 0.023 pound per hour and 0.1 ton per year methanol emissions; and 0.023 pound per hour and 0.1 ton per year phenol emissions. See section A.2.a.
	OAC rule 3745-21-09(EE)	See section A.2.b. See section A.2.c.

2. Additional Terms and Conditions

- 2.a The requirements of this rule include compliance with the requirements of OAC rules 3745-21-09(DD) and 3745-21-09(EE). Fugitive emissions from equipment leaks are included in emissions unit P801.
- 2.b The permittee shall comply with all applicable requirements of OAC rule 3745-21-09(DD). Fugitive emissions from equipment leaks are included in P801.

- 2.c The permittee shall vent emissions to a catalytic incinerator that is designed and operated to:
- i. reduce emissions of total organic compounds (less methane & ethane) with an efficiency of at least 98 % by weight; or
 - ii. emit VOC at a concentration less than 20 parts per million by volume, dry basis.

B. Operational Restrictions

1. The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when 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. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed 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 monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day:

- a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
- b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

- c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitations specified above.
2. The permittee shall submit written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions.
3. The permittee shall submit to the City of Toledo, Division of Environmental Services quarterly summaries of these records. These quarterly reports shall be submitted by April 30, July 31, October 31 and January 31, and shall cover the records for the previous calendar quarter.

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:

Visible emissions from the stack shall not exceed 0% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, Compliance shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods in 40 CFR, Part 60, Appendix A.

- b. Emission Limitation

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Dynea

PTI A

Issued: 2/10/2005

Emissions Unit ID: **P001**

VOC emissions shall not exceed 0.22 lb VOC/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 4 and 18 or 1 through 4 and 25A of 40 CFR Part 60 Appendix A, as appropriate, using the methods and procedures specified in OAC rule 3745-21-10. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

c. Emission Limitation

VOC emissions shall not exceed 0.96 ton/yr VOC.

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

d. Emission Limitation

Formaldehyde emissions shall not exceed 0.137 lb Formaldehyde/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 18 of 40 CFR Part 60 Appendix A. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

e. Emission Limitation

Formaldehyde emissions shall not exceed 0.6 ton/yr Formaldehyde

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

f. Emission Limitation

Methanol emissions shall not exceed 0.023 lb Methanol/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 308 of 40 CFR Part 63 Appendix A. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

g. Emission Limitation

Methanol emissions shall not exceed 0.1 ton/yr Methanol

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

h. Emission Limitation

Phenol emissions shall not exceed 0.023 lb/hr Phenol

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 18 of 40 CFR Part 60 Appendix A. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

i. Emission Limitation

Phenol emissions shall not exceed 0.1 ton/yr Phenol

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

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Issued

Facility ID: 0448011550

Emissions Unit ID: **P001**

F. Miscellaneous Requirements

1. This permit to install supercedes all requirements contained in PTI 04-424 for P001. All requirements of this permit to install are federally enforceable.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P002 - Kettle 2/ Phenol-formaldehyde resin manufacturing process with wet scrubber and electrically heated catalytic incinerator control	OAC rule 3745-31-05(A)(3) (PTI 04-1194 as issued on 11/10/99)	0.22 pound per hour and 0.96 ton per year volatile organic compounds (VOC). Visible emissions from the catalytic incinerator stack shall not exceed 0% opacity, as a 6-minute average. 0.137 pound per hour and 0.6 ton per year formaldehyde emissions; 0.023 pound per hour and 0.1 ton per year methanol emissions; and 0.023 pound per hour and 0.1 ton per year phenol emissions. See sections A.2.a. and A.2.b

2. Additional Terms and Conditions

- 2.a The permittee shall vent emissions to a catalytic incinerator that is designed and operated to:
 - i. reduce emissions of total organic compounds (less methane & ethane) with an efficiency of at least 98 % by weight.

- ii. emit VOC at a concentration less than 20 parts per million by volume, dry basis.

2.b Fugitive emissions from equipment leaks are included in emissions unit P801.

B. Operational Restrictions

1. The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when 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. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed 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 monitors(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day:

- a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
 - b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.
 - c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the

weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
- b. the total duration of any visible emission incident; and
- c. any corrective actions taken to eliminate the visible emissions.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitations specified above.
2. The permittee shall submit written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions.
3. The permittee shall submit to the City of Toledo, Environmental Services quarterly summaries of these records. These quarterly reports shall be submitted by April 30, July 31, October 31 and January 31, and shall cover the records for the previous calendar quarter.

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:

Visible emissions from the stack shall not exceed 0% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, Compliance shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods in 40 CFR, Part 60, Appendix A.
 - b. Emission Limitation

VOC emissions shall not exceed 0.22 lb VOC/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 4 and 18 or 1 through 4 and 25A of 40 CFR Part 60 Appendix A, as appropriate, using the methods and procedures specified in OAC rule 3745-21-10. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

c. Emission Limitation

VOC emissions shall not exceed 0.96 ton/yr VOC.

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

d. Emission Limitation

Formaldehyde emissions shall not exceed 0.137 lb Formaldehyde/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 18 of 40 CFR Part 60 Appendix A. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

e. Emission Limitation

Formaldehyde emissions shall not exceed 0.6 ton/yr Formaldehyde

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission

limitation.

f. Emission Limitation

Methanol emissions shall not exceed 0.023 lb Methanol/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 308 of 40 CFR Part 63 Appendix A. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

g. Emission Limitation

Methanol emissions shall not exceed 0.1 ton/yr Methanol

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

h. Emission Limitation

Phenol emissions shall not exceed 0.023 lb/hr Phenol

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 18 of 40 CFR Part 60 Appendix A. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

i. Emission Limitation

Phenol emissions shall not exceed 0.1 ton/yr Phenol

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

F. Miscellaneous Requirements

1. The permit to install supercedes all requirements contained in PTI 04-424 for P002. All requirements of this permit to install are federally enforceable.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	40 CFR Part 60, Subpart VV
P003 - Formaldehyde manufacturing plant with electrically heated catalytic incinerator control	OAC rule 3745-31-05(A)(3) (PTI 04-424 as issued on 3/9/1988)	
	OAC rule 3745-21-09(DD)	
	OAC rule 3745-21-09(EE)	
	40 CFR Part 60, Subpart III	

Applicable Emissions
Limitations/Control Measures

4.8 pounds per hour and 21.0 tons per year volatile organic compound (VOC) emissions.

11.0 pounds per hour and 48.2 tons per year Carbon Monoxide (CO) emissions.

Visible emissions from the catalytic incinerator stack shall not exceed 0% opacity, as a 6-minute average.

0.05 pound per hour and 0.22 ton per year formaldehyde emissions;
and
0.035 pound per hour and 0.15 ton per year methanol emissions.

See section A.2.a. and A.2.e.

See section A.2.f.

See section A.2.c.

See section A.2.d.

See section A.2.a.

See section A.2.b.

2. Additional Terms and Conditions

- 2.a** The permittee shall vent emissions to a catalytic incinerator that is designed and operated to:
- i. reduce emissions of total organic compounds (less methane & ethane) with an efficiency of at least 98 % by weight; or
 - ii. emit VOC at a concentration less than 20 parts per million by volume, dry basis corrected to 3% oxygen, whichever is less stringent.
- 2.b** The permittee shall comply with all applicable requirements of 40 CFR Part 60, Subpart V.V.
Fugitive emissions from equipment leaks are included in P801.
- 2.c** The permittee shall comply with all applicable requirements of OAC rule 3745-21-09(DD)
Fugitive emission from equipment leaks are included in P801.
- 2.d** The requirements established pursuant to this rule are equivalent to or less stringent than the requirements of 40 CFR Part 60, Subpart III.
- 2.e** The requirements of this rule include compliance with OAC rules 3745-21-09(DD) and 3745-21-09(EE) and 40 CFR Part 60, Subparts V.V. and III.
- 2.f** These hourly and annual emission limitations were established by a one-time worst case HAP emissions calculation for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.

B. Operational Restrictions

1. The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when 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. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed 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 monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
 - a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
 - b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80% of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.
 - c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall operate and maintain a flow indicator that provides a record of vent stream flow to the incinerator at least once every hour. The flow indicator shall be installed in the vent stream from each affected facility at a point closest to the inlet of each incinerator and before being joined with any other vent stream.
3. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation reports that identify all 3-hour blocks of time

during which the average combustion temperature within the catalytic incinerator does not comply with the temperature limitations above.

2. The permittee shall submit written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions.
3. The permittee shall submit quarterly deviation reports that identify all periods during which the vent stream was diverted from the catalytic incinerator or has no flow rate.
4. The permittee shall submit to the City of Toledo, Environmental Services quarterly summaries of these records. These quarterly reports shall be submitted by April 30, July 31, October 31 and January 31, and shall cover the records for the previous calendar quarter.

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:

Visible emissions from the stack shall not exceed 0% opacity, as a 6-minute average.

Applicable Compliance Method:

Compliance shall be determined in accordance with Test Method 9 as set forth in Appendix on Test Methods in 40 CFR, Part 60, Appendix A.

- b. Emission Limitation

VOC emissions shall not exceed 4.8 lbs VOC/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 4 and 18 or 1 through 4 and 25A of 40 CFR Part 60 Appendix A, as appropriate, using the methods and procedures specified in OAC rule 3745-21-10. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

- c. Emission Limitation

VOC emissions shall not exceed 21.0 tons/yr VOC.

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

d. Emission Limitation

CO emissions shall not exceed 11.0 lbs CO/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 4 and 10 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10. Alternate, USEPA approved test methods may be used with prior written approval.

e. Emission Limitation

CO emissions shall not exceed 48.2 tons/yr CO

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

f. Emission Limitation

Formaldehyde emissions shall not exceed 0.05 lb Formaldehyde/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 18 of 40 CFR Part 60 Appendix A. Alternate, USEPA approved test methods may be used with prior written

approval from Ohio EPA.

g. Emission Limitation

Formaldehyde emissions shall not exceed 0.22 ton/yr Formaldehyde

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

h. Emission Limitation

Methanol emissions shall not exceed 0.035 lb Methanol/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 308 of 40 CFR Part 63 Appendix A. Alternate, USEPA approved test methods may be used with prior written approval from Ohio EPA.

i. Emission Limitation

Methanol emissions shall not exceed 0.15 ton/yr Methanol

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission limitation multiplied by 8,760 hrs/yr divided by 2,000 lbs/ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

F. Miscellaneous Requirements

1. This permit to install supercedes all requirements contained in PTI 04-424 for P003. All requirements of this permit to install are federally enforceable.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P801 - Facility-wide fugitive equipment leaks	OAC rule 3745-31-05(A)(3) (PTI 04-424 as issued on 3/9/1988)	3.69 pounds per hour and 16.17 tons per year volatile organic compound (VOC) emissions. See section A.2.a.
	OAC rule 3745-21-09(DD)	See section A.2.b.
	OAC rule 3745-21-09(C)	1.52 pounds per hour and 6.67 tons per year formaldehyde emissions; 1.56 pounds per hour and 6.83 tons per year methanol emissions; 0.61 pound per hour and 2.67 tons per year phenol emissions. See section A.2.d.
	40 CFR Part 60, Subpart V.V.	See section A.2.c.

2. Additional Terms and Conditions

- 2.a The requirements of this rule include compliance with the requirements of OAC rule 3745-21-09(DD) and 40 CFR Part 60, Subpart V.V.
- 2.b The permittee shall comply with all applicable requirements of OAC rule 3745-21-09(DD).

- 2.c The permittee shall comply with all applicable requirements of 40 CFR Part 60, Subpart V.V. The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry as defined under 40 CFR 60.481.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall comply with the monitoring and recordkeeping requirements of OAC rule 3745-21-09(DD)(15).
2. The permittee shall comply with the monitoring and recordkeeping requirements of 40 CFR 60.487.

D. Reporting Requirements

1. The permittee shall comply with the reporting requirements of OAC rule 3745-21-09(DD)(15).
2. The permittee shall comply with the reporting requirements of 40 CFR 60.487.

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:

Total VOC emissions from equipment leaks shall not exceed 3.69 pounds per hour

Applicable Compliance Method:

Compliance shall be determined through emission factor calculations by multiplying the average SOCOMI emission factors from Table 2-1 of "Protocol for Equipment Leak Emission Estimates, EPA-453/R95-017" by the number of components and multiplying by 2.2 pounds per kilogram. Alternative US EPA approved emission factors may be used if appropriate.

b. Emission Limitation:

VOC emissions from equipment leaks shall not exceed 16.17 tons per year

Applicable Compliance Method:

The annual emission limitation was developed by multiplying the hourly emission limitation (4.8 lbs/hr) by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the hourly emission limitation constitutes compliance with the annual emission limitation.

c. Emission Limitation:

1.52 pounds per hour formaldehyde emissions from equipment leaks

Applicable Compliance Method:

Compliance shall be demonstrated through emission factor calculations by multiplying the average SOCFI emission factors from Table 2-1 of "Protocol for Equipment Leak Emission Estimates, EPA-453/R95-017" by the number of components, multiplying by 2.2 pounds per kilogram, and multiplying by the mass fraction of formaldehyde contained in the process material at each component. Alternative US EPA approved emission factors may be used if appropriate.

d. Emission Limitation:

6.67 tons per year of formaldehyde emissions from equipment leaks

Applicable Compliance Method:

The annual emission limitation was developed by multiplying the hourly emission limitation (1.52 lbs/hr) by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the hourly emission limitation constitutes compliance with the annual emission limitation.

e. Emission Limitation:

1.56 pounds per hour methanol emissions from equipment leaks

Applicable Compliance Method:

Compliance shall be demonstrated through emission factor calculations by multiplying the average SOCFI emission factors from Table 2-1 of "Protocol for Equipment Leak Emission Estimates, EPA-453/R95-017" by the number of components, multiplying by 2.2 pounds per kilogram, and multiplying by the mass fraction of methanol contained in the process material at each component. Alternative US EPA approved emission factors may be used if appropriate.

f. Emission Limitation:

6.83 tons per year of methanol emissions from equipment leaks

Applicable Compliance Method:

The annual emission limitation was developed by multiplying the hourly emission limitation (1.56 lbs/hr) by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the hourly emission limitation constitutes compliance with the annual emission limitation.

g. Emission Limitation:

0.61 pound per hour phenol emissions from equipment leaks

Applicable Compliance Method:

Compliance shall be demonstrated through emission factor calculations by multiplying the average SOCFI emission factors from Table 2-1 of "Protocol for Equipment Leak Emission Estimates, EPA-453/R95-017" by the number of components, multiplying by 2.2 pounds per kilogram, and multiplying by the mass fraction of phenol contained in the process material at each component. Alternative US EPA approved emission factors may be used if appropriate.

h. Emission Limitation:

2.67 tons per year of phenol emissions from equipment leaks

Applicable Compliance Method:

The annual emission limitation was developed by multiplying the hourly emission limitation (0.61 lb/hr) by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the hourly emission

limitation constitutes compliance with the annual emission limitation.

F. Miscellaneous Requirements

1. This permit to install supercedes all requirements contained in PTI 04-424 for P801. All requirements of this permit to install are federally enforceable.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
T063 - 23,000 gal. fixed roof tank; phenol formaldehyde resin with submerged fill and vented to an electrically heated catalytic incinerator	OAC rule 3745-31-05(A)(3) (PTI 04-424 as issued on 3/9/1988)	0.04 ton per year volatile organic compound (VOC) emissions. 0.03 ton per year of formaldehyde emissions and 0.01 ton per year of phenol emissions. See sections A.2.a and A.2.b.
	40 CFR Part 60, Subpart Kb	See section C.1 and C.2.

2. **Additional Terms and Conditions**

- 2.a This emissions unit shall be equipped with a submerged fill pipe.
- 2.b This emissions unit shall be vented to a catalytic incinerator when the tank is venting vapors.

B. Operational Restrictions

1. The permittee shall operate and maintain the catalytic incinerator used to control the emissions unit for the control of VOC when the tank is venting vapors. The monitoring, recordkeeping and reporting requirements for the catalytic incinerator are contained in Part II under P001 and P002.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep readily accessible records showing the dimension of the storage vessel, an analysis showing the capacity of the storage vessel and the location of the fill pipe in relation to the bottom.
2. The record required by C.1 shall be kept for the life of the source.
3. The permittee shall maintain records of the material stored and the annual throughput of the tank in gallons.

D. Reporting Requirements

None

E. Testing Requirements

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

- a. Emission Limitation:

0.04 ton/yr VOC

Applicable Compliance Method:

Calculate the annual emissions using the Tanks 4.0(or equivalent) computer program. Reduce the calculated tons/yr emissions by the percent destruction efficiency of the catalytic incinerator as determined during the latest emissions test that demonstrated compliance for sources P001 and P002.

- b. Emission Limitation

Formaldehyde emissions shall not exceed 0.03 ton/yr Formaldehyde

Applicable Compliance Method:

Calculate the annual emissions using the Tanks 4.0(or equivalent) computer program. Reduce the calculated tons/yr emissions by the percent destruction efficiency of the catalytic incinerator as determined during the latest emissions test that demonstrated compliance for sources P001 and P002.

c. Emission Limitation

Phenol emissions shall not exceed 0.01 ton/yr Phenol

Applicable Compliance Method:

Calculate the annual emissions using the Tanks 4.0(or equivalent) computer program. Reduce the calculated tons/yr emissions by the percent destruction efficiency of the catalytic incinerator as determined during the latest emissions test that demonstrated compliance for source P001, P002.

F. Miscellaneous Requirements

1. This permit to install supercedes all requirements of PTI 04-1194 for T063. All requirements are this permit are federally enforceable.

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

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
T064 - 30,000 gal. fixed roof tank, T-502; phenol formaldehyde resin with submerged fill and vented to an electrically heated catalytic incinerator	OAC rule 3745-31-05(A)(3) (PTI 04-424 as issued on 3/9/1988)	0.06 ton per year volatile organic compound (VOC) emissions. 0.05 ton per year of formaldehyde emission and 0.01 ton per year of phenol emissions. See sections A.2.a and A.2.b.
	40 CFR Part 60 Subpart Kb	See section C.1 and C.2.

2. Additional Terms and Conditions

- This emissions unit shall be equipped with a submerged fill pipe.
- This emissions unit shall be vented to a catalytic incinerator when the tank is venting vapors.

B. Operational Restrictions

- The permittee shall operate and maintain the catalytic incinerator used to control the emissions unit for the control of VOC when the tank is venting vapors. The monitoring, recordkeeping and reporting requirements for the catalytic incinerator are contained in Part II under P001 and P002.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep readily accessible records showing the dimension of the storage vessel, an analysis showing the capacity of the storage vessel and the location of the fill pipe in relation to the bottom.

2. The record required by C.1 shall be kept for the life of the source.
3. The permittee shall maintain records of the material stored and the annual throughput of the tank in gallons.

D. Reporting Requirements

None

E. Testing Requirements

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

- a. Emission Limitation:

0.06 ton/yr VOC

Applicable Compliance Method:

Calculate the annual emissions using the Tanks 4.0(or equivalent) computer program. Reduce the calculated tons/yr emissions by the percent destruction efficiency of the catalytic incinerator as determined during the latest emissions test that demonstrated compliance for sources P001 and P002.

- b. Emission Limitation

Formaldehyde emissions shall not exceed 0.05 ton/yr Formaldehyde

Applicable Compliance Method:

Calculate the annual emissions using the Tanks 4.0(or equivalent) computer program. Reduce the calculated tons/yr emissions by the percent destruction efficiency of the catalytic incinerator as determined during the latest emissions test that demonstrated compliance for sources P001 and P002.

- c. Emission Limitation

Phenol emissions shall not exceed 0.01 ton/yr Phenol

Applicable Compliance Method:

Calculate the annual emissions using the Tanks 4.0(or equivalent) computer program. Reduce the calculated tons/yr emissions by the percent destruction efficiency of the catalytic incinerator as determined during the latest emissions test that demonstrated compliance for source P001 and P002.

F. Miscellaneous Requirements

1. This permit to install supercedes all requirements of PTI 04-1194 for T064. All requirements are this permit are federally enforceable.