

Facility ID: 1431390137 Issuance type: Title V Final Permit

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part III" and before "I. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

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Part II - Specific Facility Terms and Conditions

a State and Federally Enforceable Section

1. 40 CFR Part 68 is an applicable requirement for this facility. The permittee shall comply with the Risk Management Plan submitted to the Hamilton County Department of Environmental Services.
2. The permittee is subject to the applicable emission limitation(s) and/or control measures, operational restrictions, monitoring and/or record keeping requirements, reporting requirements, testing requirements and the general and/or other requirements specified in National Emission Standards for Hazardous Air Pollutants (NESHAP) for 40 CFR Part 63, Subpart DDDDD, Industrial/Commercial/Institutional Boilers and Process Heaters (including the Tables and Appendices referenced in Subpart DDDDD), which are included in the text of Attachment 1 hereto, and are hereby incorporated into this permit as if fully rewritten.

Ordinarily, these requirements would be incorporated into Part II of this Title V permit; however, incorporating Subpart DDDDD into Part II of this Title V permit was not practical due to technical incompatibilities and the limitations of the STARS program. In addition, numerous difficulties were encountered in attempting to copy and paste the Subpart's tables and/or equations into STARS format.

The following emissions units in this permit may be subject to the aforementioned requirements:

B001
B003

3. The permittee is subject to the applicable emission limitation(s) and/or control measures, operational restrictions, monitoring and/or record keeping requirements, reporting requirements, testing requirements and the general and/or other requirements specified in 40 CFR Part 63 Subpart FFFF Miscellaneous Organic Chemical Production and Processes (MON). In accordance with 40 CFR Part 63, Subpart FFFF (including the Tables and Appendices referenced in Subpart FFFF), which are included in the text of Attachment 2 hereto, and are hereby incorporated into this permit as if fully rewritten.

Ordinarily, these requirements would be incorporated into Part II of this Title V permit; however, incorporating Subpart FFFF into Part II of this Title V permit was not practical due to technical incompatibilities and the limitations of the STARS program. In addition, numerous difficulties were encountered in attempting to copy and paste the Subpart's tables and/or equations into STARS format.

The following emissions units in this permit may be subject to the aforementioned requirements:

P001
P006
P010
P014
P022
P023
P024
P025
P027

4. The following insignificant emissions units are located at this facility:

P004 Fine Chemicals Manufacturing System No. 5
P015 HPT Manufacturing (PTI 14-03494)
P026 Fine Chemicals Manufacturing System No. 14 (PTI 14-03989)
T004 Sulfuric Acid Storage Tank (PTI 14-02532)
T006 o-Toluenediamine Storage Tank (PTI 14-02687)
T007 Acetic Acid Storage Tank (PTI 14-02687)
T008 o-Phenylenediamine Storage Tank (PTI 14-02687)
T009 Sodium Methylate Storage Tank (PTI 14-02688)
T010 Methyl Anthranilate Storage Tank (PTI 14-03221)
F001 Coal Unloading
Z004 Fine Chemicals Pilot Plant
Z005 Building 38 Chlorine Vaporizer
Z006 Building 35 Chlorine Vaporizer
Z101 Emergency Generator

Z102 Diesel Engine for Fire Pump
 Z103 Process Heater X-420
 Z104 Process Heater X-470
 Z105 Process Heater X-170
 Z201 CMB Storage Tank
 Z204 p-Cresidine Storage Tank
 Z205 Dimethyl sulfate Storage Tank
 Z207 300,000-Gallon Fuel Oil Storage Tank
 Z208 10,000-Gallon Fuel Oil Storage Tank
 Z209 20,000-Gallon Fuel Oil Storage Tank
 Z211 13,000-Gallon Hydrochloric Acid Storage Tank
 Z212 13,000 Gallon Hydrochloric Acid Storage Tank
 Z214 m-nitro-p-cresol Storage Tank
 Z216 o-nitro aniline Storage Tank
 Z217 2-nitro-4-methylanisole Storage Tank
 Z223 Sodium Tolytriazole Storage Tank
 Z225 Acetic Acid Storage Tank
 Z229 Sulfuric Acid Storage Tank
 Z301 TT-50S Tank Wagon Filling
 Z302 HCl Tank Wagon Filling
 Z304 HCl Drum Filling Station
 Z399 Gasoline Dispensing
 Z401 Nauta Mixer
 Z402 DeVine Dryer
 Z403 Tray Dryer D-420
 Z404 Tray Dryer D-421
 Z405 Fitzmill Dryer D-500
 Z503 Pritchard Cooling Tower
 Z601 TT North Dowtherm Unit
 Z602 TT West Multitherm Unit
 Z603 BT/HPT Multitherm Unit
 Z701 Bldg 37 Lab Hood-Research Lab, First Floor, West Wall
 Z702 Bldg 37 Lab Hood-Research Lab, First Floor, South Wall
 Z703 Bldg 37 Lab Hood-Research Lab, Second Floor, West End-North
 Z704 Bldg 37 Lab Hood-Research Lab, Second Floor, West End-South
 Z705 Bldg 37 Lab Hood-Research Lab, Second Floor, Center-West
 Z706 Bldg 37 Lab Hood-Research Lab, Second Floor, Center-East
 Z707 Bldg 37 Lab Hood-Research Lab, Second Floor, East End-West
 Z708 Bldg 37 Lab Hood-Research Lab, Second Floor, East End-East
 Z710 QA Lab Hood-Main Lab, North Wall
 Z711 QA Lab Hood-Main Lab, West Wall
 Z712 QA Lab Hood-Sample Room, North Wall
 Z713 QA Lab Hood-Sample Room, East Wall
 Z714 QA Lab Hood-NPC Area, East Wall
 Z720 In-Process Test Hood-IA Control Room
 Z721 In-Process Test Hood-Bldg 35, Saccharin Control Room
 Z722 In-Process Test Hood-Bldg 38 Lab
 Z901 Building 12 Parts Washer-Powerhouse
 Z902 Building 24 Parts Washer-Maintenance Shop
 Z903 Drum Warmer-Bldg 38, Third Floor, East
 Z904 Drum Warmer-Bldg 40, Second Floor, East
 Z910 Roadways and Parking Areas

Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, and well as any emission limitations and/or control requirements contained within the identified permit to install for the emissions unit. Insignificant emissions units listed above that are not subject to specific permit to install requirements are subject to one or more of the applicable requirements contained in the federally-approved versions of OAC Chapters 3745-17, 3745-18, and/or 3745-21.

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b State Only Enforceable Section

1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: B001 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
62.9 MMBtu/hr natural gas, No. 2 oil-fired boiler	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-10(B)(1)	0.020 lb of PE/MMBtu of actual heat input
	OAC rule 3745-18-37(FF)	2.0 lbs of SO2/MMBtu of actual heat input
	40 CFR Part 63, Subpart DDDDD	See Attachment 1 of this permit.

2. **Additional Terms and Conditions**
 - (a) None

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II. Operational Restrictions

1. The permittee shall burn only natural gas and No. 2 fuel oil in this emissions unit.
2. The quality of oil burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable SO2 emission limitation specified in section A.I.1 above.

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III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas and/or No. 2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F). A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the Hamilton County Department of Environmental Services.

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IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or No. 2 fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emissions unit. The permittee's or oil supplier's analyses shall document the sulfur content (percent) and heat content (Btu/gallon) for each shipment of oil. The following information shall also be included with the copies of the permittee's or oil supplier's analyses:
 - a. the total quantity of oil received in each shipment (gallons).
 - b. the calculated sulfur dioxide emission rate (pounds/MMBtu) for each shipment of oil (this calculation shall be performed using the equation specified in OAC rule 3745-18-04(F)).

These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall cover the oil shipments received during the previous calendar quarters.

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V. Testing Requirements

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitation:
0.020 lb of PE/MMBtu of actual heat input

Applicable compliance method when burning only natural gas:
For the use of natural gas, compliance may be determined by multiplying the hourly gas burning capacity of the emissions unit (MM cu. ft/hr) by the AP-42, Fifth Edition, Section 1.4, Table 1.4-2 (revised 7/98) emission factor of 1.9 lbs filterable PE/MM cu. ft, and then dividing by the maximum hourly heat input capacity of the emissions unit (MMBtu/hr).

Applicable compliance method when burning No. 2 fuel oil:
For the use of No. 2 fuel oil, compliance may be determined by multiplying the maximum fuel oil capacity of the emissions unit (gallons/hr) by the AP-42, Fifth Edition, Section 1.3, Table 1.3-1 (revised 9/98) emission factor of 2.0 lbs filterable PE/1000 gallons, and then dividing by the maximum hourly heat input capacity of the emissions unit (MMBtu/hr).

If required, the permittee shall demonstrate compliance with the lb/MMBtu emission limit above pursuant to OAC rule 3745-17-03(B)(9).
 - c. Emission Limitation:
2.0 lbs/MMBtu of sulfur dioxide

Applicable Compliance Method when No.2 fuel oil:
Compliance with the allowable sulfur dioxide emission limitation shall be demonstrated by the monitoring and record keeping requirements in in Section A.III.2 and the reporting requirements in Section A.IV.2.b.

Applicable compliance method when burning natural gas:
For the use of natural gas, compliance may be determined by multiplying the hourly gas burning capacity of the emissions unit (MM cu. ft/hr) by the AP-42, Fifth Edition, Section 1.4, Table 1.4-2 (revised 7/98) emission factor of 0.6 lb SO₂/MM cu. ft, and then dividing by the maximum hourly heat input capacity of the emissions unit (MMBtu/hr).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with USEPA reference Method 6, Method 6A, Method 6B, or Method 6C, whichever is appropriate, of 40 CFR Part 60, Appendix A.

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: B001 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
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2. Additional Terms and Conditions

- 1. None

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II. Operational Restrictions

- 1. None

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III. Monitoring and/or Record Keeping Requirements

- 1. None

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IV. Reporting Requirements

- 1. None

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V. Testing Requirements

- 1. None

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VI. Miscellaneous Requirements

- 1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: B003 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
98 MMBtu/hr coal/oil-fired boiler with baghouse (derated to 71.2 MMBtu, based on March 1999 stack test)	OAC rule 3745-31-05(A)(3) (PTI 14-307)	See A.II.5.
	OAC rule 3745-17-07(A)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-10(C) and 3745-18-37(FF). Visible particulate emissions (PE) shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-10(C)	0.22 lb PE/MMBtu of actual heat input
	OAC rule 3745-18-37(FF) 40 CFR Part 63, Subpart DDDDD	See A.I.2. 1.6 lbs SO2/MMBtu of actual heat input See Attachment 1 of this permit.

2. Additional Terms and Conditions

- a. Pursuant to OAC rule 3745-17-10, the total heat input for B003 is derated from 98 MMBtu/hr to 71.2 MMBtu/hr. (The derated total heat input of 71.2 MMBtu/hr corresponds to a steam load of 53,460 pounds per hour.) Using the derated total heat input, the allowable particulate emissions rate for B003, from Figure I of OAC rule 3745-17-10, is 0.22 pound per MMBtu actual heat input.

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II. Operational Restrictions

1. The permittee shall vent the emissions from B003 to a baghouse. The permittee shall maintain and operate the baghouse according to the manufacturer's specifications.
2. The pressure drop across the baghouse shall be maintained within the range of 3 - 7.5 inches of water while the emissions unit is in operation.

The pressure drop across the baghouse may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
3. The quality of the coal and fuel oil burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable SO2 emission limitation specified in section A.1 above.
4. At no time shall the steam flow rate from B003 exceed 53,460 pounds per hour (as an average over any one-hour period).
5. The stack height of this boiler shall be at least 100 feet measured above ground level.

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manual (s). The permittee shall record the pressure drop across the baghouse on a daily basis.
2. The permittee shall collect or require the coal supplier to collect a representative grab sample of each shipment of coal that is received for burning in this emissions unit. The permittee shall provide coal sampling and analysis in accordance with 40 CFR, Part 60, "Appendix A", Method 19. The permittee shall perform or require the supplier to perform the coal sampling in accordance with ASTM method D2234, Collection of a Gross Sample of Coal. Pursuant to OAC rule 3745-18-04(D)(8)(d)(iv), the permittee shall collect one representative coal sample per week for analysis. The coal sample shall consist of at least six sample increments weighing a minimum of 1.5 pounds each.

Each weekly composite sample of coal shall be analyzed for ash content (percent), sulfur content (percent),

and heat content (Btu/pound of coal). The analytical methods for ash content, sulfur content, and heat content shall be: ASTM method D3174, Ash in the Analysis of Coal and Coke; ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D2015, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, ASTM method D3286, Gross Calorific Value of Coal and Coke by the Isothermal Bomb Calorimeter, or ASTM method D1989, Standard Test Method for Gross Calorific Value of Coal and Coke by Microprocessor Controlled Isothermal Bomb Calorimeters, respectively. Alternative, equivalent methods may be used upon written approval by the Hamilton County Department of Environmental Services.

For each weekly composite sample of coal received for burning in this emissions unit, the permittee shall maintain records of the total quantity of coal received, the permittee's or coal supplier's analyses for ash content, sulfur content and heat content, and the calculated sulfur dioxide emission rate in pounds of sulfur dioxide per MMBtu of actual heat input. This calculation shall be performed according to the methods specified in OAC rule 3745-18-04(G).

3. The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the Hamilton County Department of Environmental Services.
For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate in lbs of sulfur dioxide per MMBtu of actual heat input. This calculation shall be performed according to methods specified in OAC rule 3745-18-04(G).
4. The permittee shall operate and maintain equipment to continuously monitor and record the steam flow rate, recorded in lbs of steam/hr, from B003. Copies of all steam flow rate charts shall be maintained for a period of 5 years, and shall be made available to the Hamilton County Department of Environmental Services upon verbal or written request.
5. 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 baghouse 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.

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IV. Reporting Requirements

1. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
2. The permittee shall submit, on a quarterly basis, copies of the permittee's or coal supplier's analyses (wet and/or dry) for the shipments of coal which are received for burning in this emissions unit. The permittee or coal supplier's analyses shall document the ash content (percent), sulfur content (percent), and heat content (Btu/pound) of each weekly composite sample of coal. The following information shall also be included in each report:
 - a. the total quantity of coal received in each shipment (tons) and the total quantity of coal associated with each weekly composite sample (tons);
 - b. the ash content (percent) of each weekly composite sample;
 - c. the sulfur content (percent) of each weekly composite sample;
 - d. the heat content (Btu/pound) of each weekly composite sample; and
 - e. the calculated SO₂ emission rate (lbs/MMBtu actual heat input) for the coal in each weekly composite sample. The SO₂ emission rate shall be calculated using the applicable methods specified in OAC rule 3745-18-04(G).

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the coal shipments received during the previous calendar quarters.
3. The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emissions unit. The permittee's or oil supplier's analyses shall document the sulfur content (percent) and heat content (Btu/gallon) for each shipment of oil. The following information shall also be included with the copies of the permittee's or oil supplier's analyses:
 - a. the total quantity of oil received in each shipment (gallons);
 - b. the calculated SO₂ emission rate (lbs/MMBtu actual heat input) of the oil received in each shipment. The SO₂ emission rate shall be calculated using the applicable methods specified in OAC rule 3745-18-04(G).

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the oil shipments received during the previous calendar quarters.
4. If for any reason the steam flow rate from B003 exceeds 53,460 pounds per hour, the following information

shall be reported within 5 business days after the exceedance:

- a. the date of the exceedance;
 - b. the time interval over which the exceedance occurred;
 - c. the value of the exceedance;
 - d. the cause(s) of the exceedance;
 - e. the corrective action which has been or will be taken to prevent similar exceedances in the future; and
 - f. a copy of the steam chart which shows the exceedance.
5. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. **Testing Requirements**

1. To demonstrate compliance with the particulate emission limitation when burning coal, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within two (2) to three (3) years after issuance of the permit, and within 12 months prior to permit expiration.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulate emissions specified in A.I.1.
 - c. Methods 1-5 of 40 CFR Part 60, Appendix A, shall be employed to demonstrate compliance with the allowable particulate emission rate.
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services' refusal to accept the results of the emission test(s). Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.
2. Compliance with the emission limitations and the operational restrictions specified in Sections A.I.1 and A.II of these terms and conditions shall be determined in accordance with the following methods:
 - a. **Emission Limitation:**
Particulate emissions shall not exceed 0.22 lb/MMBtu of actual heat input.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.
 - b. **Emission Limitation:**
Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - c. **Emission Limitation:**
Sulfur dioxide emissions shall not exceed 1.6 lbs/MMBtu of actual heat input.

Applicable Compliance Method when No.2 fuel oil:
Compliance with the allowable sulfur dioxide emission limitation shall be demonstrated by the monitoring and record keeping requirements in Section A.III.3 and the reporting requirements in Section A.IV.3.b.

Applicable Compliance Method when burning coal:

Compliance with the allowable sulfur dioxide emission limitation shall be demonstrated by the monitoring and record keeping requirements in Section A.III.2 and the reporting requirements in Section A.IV.2.e.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4, and 6.

- d. Compliance with the average daily operating rate limitation specified in A.I.2 shall be determined by the record keeping requirements in Section A.III.4 of this permit.

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: B003 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
2. Additional Terms and Conditions			
1.	None		

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II. **Operational Restrictions**

1. None

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III. **Monitoring and/or Record Keeping Requirements**

1. None

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IV. **Reporting Requirements**

1. None

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V. **Testing Requirements**

1. None

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VI. **Miscellaneous Requirements**

1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P001 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
fine chemical manufacturing with packed bed scrubber system (See A.VI.1 below.)	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust from the charging process associated with this emissions unit shall not exceed 20 percent opacity, as a three-minute average.
	OAC rule 3745-17-08(B) OAC rule 3745-17-07(A)	See A.I.2.a below. The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-17-08(B)(3).
	OAC rule 3745-21-07(G) 40 CFR Part 63, Subpart FFFF	None, see A.I.2.b below. See Attachment 2 of this permit.

2. Additional Terms and Conditions

- a. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - (a)
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design;
 - iii. all fugitive dust captured shall be vented to a scrubber capable of achieving an outlet emission rate of not greater than .030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there are no visible particulate emissions from the exhaust stack(s), whichever is less stringent; and
 - iv. when loading solid materials into the reactors, visible emissions of fugitive dust shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactors.
 - b. The permittee shall not employ any liquid organic material in this emissions unit that is a photochemically reactive material. "Photochemically reactive material" is defined in OAC rule 3745-21-01(C)(5).

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II. Operational Restrictions

1. The emissions from T830 shall be vented to packed bed scrubber E830.
2. The pressure drop across the packed bed scrubber (E830) shall be maintained at a value within the range of 3.5 to 5 inches of water at all times while the emissions unit is in operation.

The pressure drop across the scrubber may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing

compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

3. The scrubber liquor flow rate to the packed bed scrubber (E830) shall be continuously maintained at a value of not less than 34.8 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

4. The pH of the scrubber liquor for the packed bed scrubber (E830) shall be maintained at a value greater than or equal to 6.

The pH may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative scrubber liquor pH ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly install (within 6 months of the effective date of this permit), operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the scrubber liquor flow rate and the pH of the scrubber liquor while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

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

- a. the pressure drop across the scrubber, in inches of water, on a once per shift basis;
 - b. the scrubber liquor flow rate, in gallons per minute, on a once per shift basis;
 - c. the pH of the scrubber liquor, on a once per shift basis; and
 - d. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall collect and record the following information each month:
 - a. the company identification of each liquid organic material employed in this emissions unit; and
 - b. documentation on whether or not each liquid organic material employed is a photochemically reactive material.
 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 scrubber and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:
 - a. the static pressure drop across the scrubber;
 - b. the scrubber liquor flow rate; and
 - c. the pH of the scrubber liquor.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.

2. The permittee shall notify the Director (the Hamilton County Department of Environmental Services) of any monthly record showing the use of any noncomplying material (i.e., photochemically reactive materials). This notification shall be in writing and shall be submitted within 30 days after any photochemically reactive material was employed.
3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the scrubber serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building

windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. **Testing Requirements**

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible emissions of fugitive dust from the charging of the reactors shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitation above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).
 - b. Emission Limitation:
0.030 grPE/dscf from the scrubber

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the PE limitation above in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.
 - c. Emission Limitation:
no VEs from the scrubber

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the no visible emission limitation above in accordance with Method 22 of 40 CFR, Part 60, Appendix A.

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VI. **Miscellaneous Requirements**

1. This emissions unit was installed prior to February 15, 1972 and was an uncontrolled fugitive dust source located in an Appendix A area of OAC rule 3745-17-08. On or after February 15, 1972 a capture system and control equipment were installed. The capture system partially collects the emissions previously emitted. Therefore, this emissions unit must employ reasonably available control measures (RACM) for the uncontrolled emissions and the control equipment discharge must comply with the OAC rule 3745-17-08(B) (3) PE limitation of 0.030 gr/dscf or have no VEs, whichever is less stringent.

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Facility ID: 1431390137 Emissions Unit ID: P001 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
2. Additional Terms and Conditions		
1. None		

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II. Operational Restrictions

1. None

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III. Monitoring and/or Record Keeping Requirements

1. None

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IV. Reporting Requirements

1. None

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V. Testing Requirements

1. None

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: P002 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
phthalimide manufacturing, equipped with an ejector venturi scrubber, baghouse, and dust bag (fabric filter placed over drum while grinding and load out is occurring) (See A.VI.1 below.)	40 CFR Part 63, Subpart G (40 CFR 63.113(e))	The total resource effectiveness (TRE) values for this process are greater than 4; therefore, no control measures are required. As an owner or operator of a Group 2 process vent with a TRE value greater than 4.0, the permittee shall maintain a TRE index value greater than 4.0 and shall comply with the provisions for calculation of a TRE index value in 40 CFR 63.115 and the reporting and record keeping provisions in 40 CFR 63.117(b) and 63.118(c) and (h). The permittee currently is not subject to monitoring or any other provisions of 40

40 CFR Part 63, Subpart H OAC rule 3745-17-07(B)(1)	CFR 63.114 through 63.118. See A.I.2.a, A.I.2.b, A.III.5, and A.III.7-A.III.14. Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
OAC rule 3745-21-07(G) OAC rule 3745-21-09(DD)	See A.I.2.d. As provided for in OAC rule 3745-21-09(DD)(17)(a) (ii) this emissions unit is exempt from the requirements of OAC rule 3745-21-09(DD)(2)-(6).
OAC rule 3745-17-07(A)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-17-08(B)(3).
OAC rule 3745-17-08(B)	See A.I.2.c below.

2. Additional Terms and Conditions

- a. The leak detection and repair program pertains to any type of valve or connector in organic hazardous air pollutant service within the Building 36 phthalic anhydride line. The equipment covered by this permit and subject to the SOCM I HON fugitive emissions at the time of permit issuance are listed below for general reference purposes. Changes to quantities do not necessarily require a modification to this permit:
 - (a) Valves in heavy liquid service = 5
Nozzles and flow transmitters = 2
Connectors = 3
- b. Each piece of equipment that is in organic hazardous air pollutant service must be identified such that it can be distinguished readily from equipment that is not subject to the SOCM I HON regulations. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process unit boundaries by some form of weatherproof identification.
- c. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design;
 - iii. all fugitive dust captured shall be vented to a scrubber or baghouse capable of achieving an outlet emission rate of not greater than .030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there are no visible particulate emissions from the exhaust stack(s), whichever is less stringent;
 - iv. ventilation for the dust bag shall be securely attached to the collection drum and there shall be no visible PE from the dust bag; and
 - v. when loading solid materials into the reactors, visible emissions of fugitive dust shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactor.
- d. The permittee shall not employ any liquid organic material in this emissions unit that is a photochemically reactive material. "Photochemically reactive material" is defined in OAC rule 3745-21-01(C)(5).

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II. Operational Restrictions

- 1. The emissions from the flake pack out and pack out drums (non-ground product) shall be vented to the ejector venturi scrubber (P-Scrubber).
- 2. The scrubber liquor flow rate to the ejector venturi scrubber (P-Scrubber) shall be continuously maintained at a value of not less than 100 gallons per minute while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
- 3. The permittee shall maintain a TRE index value greater than 4.0 and comply with the provisions for calculation of the TRE index in 40 CFR 63.115.
- 4. The pressure drop across the baghouse shall be continuously maintained between 5 and 7 inches of water at all times while the emissions unit is in operation.

- The pressure drop across the baghouse may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
5. The emissions from the sublimator and flaker shall be vented to the baghouse.
 6. Prior to employing organic materials which are not exempt from the requirements of OAC rule 3745-21-09 (DD), Leaks from Process Units That Produce Organic Chemicals, the permittee shall establish written procedures which will demonstrate compliance with all provisions of OAC rule 3745-21-09(DD) and shall notify the Hamilton County Department of Environmental Services so that these permit terms may be modified to incorporate the requirements of OAC rule 3745-21-09(DD).

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III. Monitoring and/or Record Keeping Requirements

1. For the ejector venturi scrubber (P-Scrubber), the permittee shall properly install*, operate and maintain equipment to continuously monitor the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

* The scrubber liquor flow rate monitor shall be installed and operational within 6 months of the effective date of this permit.

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

 - a. the scrubber liquor flow rate, in gallons per minute, on a once per shift basis.
2. The permittee shall properly install*, operate and maintain equipment to continuously monitor the static pressure drop across the baghouse while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals. The permittee shall collect and record the pressure drop across the baghouse, in inches of water, on a once per shift basis.

* The baghouse pressure drop monitor shall be installed and operational within 6 months of the effective date of this permit.
3. The permittee shall maintain a daily log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this emissions unit was in operation.
4. The permittee shall collect and record the following information each month:
 - a. the company identification of each liquid organic material employed in this emissions unit; and
 - b. documentation on whether or not each liquid organic material employed is a photochemically reactive material.
5. The permittee shall maintain records that contain a listing of the feed and raw materials and products of the process units along with an analysis demonstrating that these materials and products are in heavy liquid service as defined by OAC rule 3745-21-01(M)(10) and 40 CFR 63.161.
6. The permittee shall maintain up-to-date, readily accessible records of the following:
 - a. Any process changes that include, but are not limited to, changes in production capacity, production rate, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. (Process changes do not include process upsets; unintentional, temporary process changes; and changes that are within the range on which the original TRE calculation was based.)
 - b. Any recalculation of the TRE index value, flow, or organic hazardous air pollutants concentration for each process vent, as necessary to determine whether the vent is Group 1 or Group 2, whenever process changes are made that could reasonably be expected to change the vent to a Group 1 vent.
7. When a leak is detected within this emissions unit, the following requirements apply:
 - a. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
 - b. The identification on a valve may be removed after it has been monitored as per the regulated method (as defined in 40 CFR Part 63, Subpart H) and no leak has been detected during the follow up monitoring.
 - c. The identification which has been placed on equipment determined to have a leak, except for a valve, may be removed after it is repaired.
8. Valves and connectors in heavy liquid service and instrumentation systems shall be monitored within 5 calendar days by the method specified in 40 CFR 63.180(b) if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired in accordance with the requirements of A.III.8.c and d, it is not necessary to monitor the system for leaks by the method specified in 40 CFR 63.180(b).

If an instrument reading of 500 parts per million or greater for valves, connectors and instrumentation systems is measured, a leak is detected.

When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days

after it is detected, except as provided in A.III.9. of this permit. The first attempt at repair shall be no later than 5 calendar days after each leak is detected. For equipment identified in the first paragraph of this section that is not monitored by the method specified in 40 CFR 63.180(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check; or that the system will hold a test pressure.

First attempts at repair include, but are not limited to:

- a. tightening of bolts;
 - b. replacement of bonnet bolts;
 - c. tightening of packing gland nuts; and
 - d. injection of lubricant into lubricated packing.
9. Delay of repair of equipment for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.

Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service.

Delay of repair for valves and connectors is also allowed if:

- a. the owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and
- b. when repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 63.172.

Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

10. If there is more than one process unit subject to the provisions of 40 CFR Part 63, Subpart H, the permittee may comply with the record keeping requirements for these process units in one record keeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. All records and information required by this permit shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.
11. The following information pertaining to all equipment in each process unit subject to the requirements of 40 CFR Part 63, Subpart H shall be recorded:
 - a. A list of identification numbers for equipment and instrumentation systems subject to the requirements of 40 CFR Part 63, Subpart H. Connectors need not be individually identified if all connectors in a designated area or length of pipe are identified as a group, and the number of connectors subject is indicated. Individual components in an instrumentation system need not be identified.
 - b. Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this permit may be identified on a plant site plan, in log entries, or by other appropriate methods.
12. When each leak is detected as specified in A.III.8. of this permit, the following information shall be recorded and kept for five years:
 - a. The instrument and the equipment identification number and the operator name, initials, or identification number.
 - b. The date the leak was detected and the date of first attempt to repair the leak.
 - c. The date of successful repair of the leak.
 - d. The maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.
 - e. Each instance of "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak:
 - i. The permittee may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan required by 40 CFR 63.6(e)(3) or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.
 - ii. If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.
 - f. The dates of process unit shutdowns that occur while the equipment is unrepaired.
 - g. Copies of the periodic reports as specified in 40 CFR 63.182(d), if records are not maintained on a computerized database capable of generating summary reports from the records.

13. The permittee shall perform a visual inspection for evidence of a potential leak to the atmosphere by visual, audible, olfactory, or any other detection method. This visual inspection shall be performed on a quarterly basis. The permittee shall document that the inspection was conducted and the date of the inspection. The permittee shall maintain records as specified in A.III.12 of this permit for leaking equipment identified in this inspection. These records shall be retained for 5 years.
14. The permittee shall retain information, data, and analyses used to determine or demonstrate that a piece of equipment is in heavy liquid service. A determination or demonstration shall include an analysis or demonstration that the process fluids do not meet the definition of "in light liquid service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.
15. While product grinding and load out is occurring, the dust bag shall be examined to ensure the dust bag is securely attached to the collection drum and is free of visible emissions of fugitive dust while product load out is occurring. This inspection shall be conducted on a once per shift basis. The results of the inspection and any corrective action taken to eliminate any problems shall be collected and recorded in a log book.
16. 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 ejector venturi scrubber and baghouse and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the ejector venturi scrubber water flow rate was not maintained at or above the required level.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the static pressure drop across the baghouse was not maintained at or above the required level.
3. The permittee shall notify the Director (the Hamilton County Department of Environmental Services) of any monthly record showing the use of any noncomplying material (i.e., photochemically reactive material). This notification shall be in writing and shall be submitted within 30 days after any photochemically reactive material was employed.
4. Prior to any changes in the production of phthalimide, the permittee shall notify the Hamilton County Department of Environmental Services as to whether the changes will result in the feed, raw materials or products of these process units no longer being classified as heavy liquids.
5. The permittee shall submit semi-annual reports of start-ups, shutdowns and malfunctions as required by 40 CFR 63.10(d)(5).
6. A report containing the information required by A.III.7. of this permit shall be submitted semiannually by January 22 and July 22 of each calendar year.
7. For each process unit subject to the leak detection and monitoring requirements of this permit, the following report summary is required for each monitoring period during the 6-month period:
 - a. the number of valves for which leaks were detected, the percent leakers, and the total number of valves monitored;
 - b. the number of valves for which leaks were not repaired, identifying the number of those that are determined nonrepairable;
 - c. the number of connectors for which leaks were detected, the percent of connectors leaking, and the total number of connectors monitored;
 - d. the number of connectors for which leaks were not repaired, identifying the number of those that are determined nonrepairable; and
 - e. the facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.These reports shall be submitted semiannually by January 22 and July 22 of each calendar year.
8. The permittee shall submit quarterly deviation (excursion) reports that identify all days for which product grinding and load out occurred and the inspection required in A.III.15 of the dust bag did not take place and/or visible emissions were documented.
9. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
10. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the venturi scrubber and/or baghouse serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director

(the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. **Testing Requirements**

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. **Emission Limitation:**
No visible emissions from the stacks associated with the baghouse and ejector venturi scrubber.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the PE limitation above in accordance with Method 22 of 40 CFR, Part 60, Appendix A.
 - b. **Emission Limitation:**
Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).
 - c. **Emission Limitation:**
0.030 grPE/dscf from the scrubber or baghouse

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the PE limitation above in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.
2. Compliance with OAC rule 3745-21-09(DD) shall be demonstrated by the record keeping requirement in A.III.5.
3. If monitoring is required for hazardous air pollutant (HAP) or VOC leaks, the permittee shall comply with the following procedures and requirements:
 - a.
 - i. Except as provided for in Section A.V.3.a.ii, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in Section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAPs or VOCs, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.
 - ii. If no instrument is available at the plant site that will meet the performance criteria specified in Section A.V.3.a.i, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in Section A.V.3.a.i.
 - iii. The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, Appendix A.
 - b. **Calibration gases shall be:**
 - i. Zero air (less than 10 parts per million of hydrocarbon in air).
 - ii. Mixtures of methane in air at the concentrations specified in this section. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in Section A.V.3.a. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air. A mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 500 ppm for all equipment, except as provided in Section A.V.3.b.iii).
 - iii. The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the permittee need not calibrate the scales that will not be used during that day's monitoring.
 - c. Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

- d. Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless the permittee demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used.

The permittee may use good engineering judgment rather than the procedures in the above paragraph to determine that the percent organic HAP content does not exceed 5 percent by weight. When the permittee and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in the above paragraph shall be used to resolve the disagreement.

Conversely, the permittee may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent.

If the permittee determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in the first paragraph of this section, or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service.

Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

- 4. Compliance with 40 CFR Part 63, Subpart G shall be demonstrated by the record keeping requirements of A.III.6.
- 5. Compliance with the requirements of 40 CFR Part 63, Subpart H shall be demonstrated by the record keeping requirements of A.I.2.a, A.I.2.b, A.III.5, and A.III.7-A.III.14.

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VI. **Miscellaneous Requirements**

- 1. This emissions unit was installed prior to February 15, 1972 and was an uncontrolled fugitive dust source located in an Appendix A area of OAC rule 3745-17-08. On or after February 15, 1972 a capture system and control equipment were installed. The capture system partially collects the emissions previously emitted. Therefore, this emissions unit must employ reasonably available control measures (RACM) for the uncontrolled emissions and the control equipment discharge must comply with the OAC rule 3745-17-08(B) (3) PE limitation of 0.030 gr/dscf or have no VEs, whichever is less stringent.

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Facility ID: 1431390137 Emissions Unit ID: P002 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
2. Additional Terms and Conditions			
1.	None		

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II. **Operational Restrictions**

- 1. None

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III. **Monitoring and/or Record Keeping Requirements**

1. None

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IV. **Reporting Requirements**

1. None

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V. **Testing Requirements**

1. None

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: P005 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
p-cresidine manufacturing with ejector venturi and packed bed scrubbers	OAC rule 3745-21-07(G)	See A.I.2.a.

2. Additional Terms and Conditions

- a. The permittee shall not employ any liquid organic material in this emissions unit that is a photochemically reactive material. "Photochemically reactive material" is defined in OAC rule 3745-21-01(C)(5).
- b. When manufacturing NMSO or MASO the emissions from T-700 shall be vented to ejector venturi scrubber (P-656) and packed bed scrubber (C-655).
When manufacturing BBT the emissions from T-650, T-700, T660, or T710 and shall be vented to packed bed scrubber C-655.

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II. **Operational Restrictions**

1. The pressure drop across the packed-bed scrubber, C-655, shall be continuously maintained at or above 2.5 inches of water at all times while the emissions unit is in operation.

The pressure drop across the packed-bed scrubber may be modified should the permittee provide

additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

2. The scrubber liquor flow rates shall be continuously maintained at or above the following values at all times while the emissions unit is in operation:
 - a. ejector venturi scrubber (P-656): 112 gallons per minute; and
 - b. packed-bed scrubber (C-655): 100 gallons per minute.

The scrubber liquor flow rates may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

3. The pH of the scrubbing liquor for the ejector venturi scrubber P-656 shall be maintained at or above 6.

The pH may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative scrubber liquor pH ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month:
 - a. the company identification of each liquid organic material employed in this emissions unit; and
 - b. documentation on whether or not each liquid organic material employed is a photochemically reactive material.
2. The permittee shall properly install (within 6 months after the effective date of this permit), operate and maintain equipment to continuously monitor the static pressure drop across the packed-bed scrubber (C-655) and the scrubber liquor pH and flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

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

- a. the pressure drop across the packed-bed scrubber (C-655), in inches of water, on a once per shift basis;
- b. the scrubber liquor flow rate, in gallons per minute, on a once per shift basis from the ejector venturi scrubber P-656 and the packed-bed scrubber (C-655);
- c. the pH of the scrubber liquor for venturi scrubber P-656;
- d. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when the associated emissions unit was in operation.

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IV. Reporting Requirements

1. The permittee shall notify the Director (the Hamilton County Department of Environmental Services) of any monthly record showing the use of any noncomplying material (i.e., photochemically reactive material). This notification shall be in writing and shall be submitted within 30 days after any photochemically reactive material was employed.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:
 - a. the static pressure drop across the packed-bed scrubber (C-655);
 - b. the scrubber liquor flow rate; and
 - c. the pH for the scrubber liquor in venturi scrubber P-656.
3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.

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V. Testing Requirements

1. Compliance with OAC rule 3745-21-07(G) shall be demonstrated by the record keeping requirements in A.III.1.

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: P005 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
2. Additional Terms and Conditions			
1.	None		

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II. **Operational Restrictions**

1. None

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III. **Monitoring and/or Record Keeping Requirements**

1. None

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IV. **Reporting Requirements**

1. None

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V. **Testing Requirements**

1. None

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: P006 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
fine chemicals system #1 (batch manufacturing of specialty chemicals), equipped with an ejector venturi scrubber	OAC rule 3745-31-05(A)(3) (PTI 14-02916)	For the production of NaCOPA, the following emission limitations shall not be exceeded. 0.024 lb organic compounds (OC)/hr* and 0.11 TPY 0.21 lb chlorine (Cl)/hr* and 0.92 TPY *The lbs/hr emission limitations established in PTI 14-02916 were based on the emissions unit's potentials to emit. Therefore, no monitoring, record keeping or reporting requirements are necessary to ensure compliance with these limitations.
	OAC rule 3745-17-07(B)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(B)(1), 3745-17-08(B) and 3745-21-07(G). Visible emissions of fugitive dust from the charging process shall not exceed 20 percent opacity, as a three-minute average.
	OAC rule 3745-17-08(B) OAC rule 3745-21-07(G)	See A.I.2.a below. When employing products that are photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5), the following emission limitations shall not be exceeded:
	40 CFR Part 63, Subpart FFFF	8 lbs OC/hr, 40 lbs/OC/day See Attachment 2 of this permit.

2. Additional Terms and Conditions

- a. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - (a)
 - i. the permittee shall use hoods, fans, and equipment to adequately enclose, contain, capture, and vent the emissions of fugitive dust;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and
 - iii. when loading solid materials into the reactors, visible emissions of fugitive dust shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactor.
 - b. This emissions unit currently does not employ any photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5). It is, therefore, exempt from all emission limitations and control requirements contained in OAC rule 3745-21-07(G).

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II. Operational Restrictions

1. The emissions from T100, T120, T125, and T130 also shall be vented to venturi scrubber P150 (acid gas scrubber).

2. The scrubber liquor flow rate for ejector venturi scrubber P150 (acid gas scrubber) shall be continuously maintained at a value of not less than 15 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

3. The pH of ejector venturi scrubber P150 (acid gas scrubber) shall be continuously maintained at a value greater than 4.

The pH may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative scrubber liquor pH ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

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III. Monitoring and/or Record Keeping Requirements

1. For ejector venturi scrubber P150 (acid gas scrubber), the permittee shall properly install (within 6 months after the effective date of this permit), operate and maintain equipment to continuously monitor the scrubber liquor flow rate and the pH of the scrubber liquor while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day for scrubber P150 (acid gas scrubber):

- a. the scrubber liquor flow rate, in gallons per minute, on a once per shift basis;
 - b. the pH of the scrubber liquor for, on a once per shift basis; and
 - c. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this emissions unit was in operation.
2. The permittee shall collect and record the following information for each day that a photochemically reactive material is employed:
 - a. the company identification for each material used and product manufactured; and
 - b. the maximum hourly and daily emissions calculations for this process.
 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 scrubber and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the scrubber parameters were not maintained at or above the required levels specified in A.II:
 - a. the scrubber liquor flow rates; and
 - b. the pH of the scrubber liquor.
2. The permittee shall submit quarterly deviation (excursion) reports which include the following information:
 - a. For the days during which a photochemically reactive material was employed, an identification of each day during which the average hourly organic compound emissions from the materials and products exceeded 8 pounds per hour, and the actual average hourly organic compound emissions for each such day.
 - b. For the days during which a photochemically reactive material was employed, an identification of each day during which the organic compound emissions from the materials and products exceeded 40 pounds per day, and the actual organic compound emissions for each such day.
3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the scrubber serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building

windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

5. Prior to employing any photochemically reactive material in this emissions unit, including any cleanup material that is a photochemically reactive material, the permittee shall provide written notification to the appropriate Ohio EPA field office. Such notification shall include information sufficient to determine compliance with the emission limits and/or control requirements specified in OAC rule 3745-21-07(G). This notification, at a minimum, shall include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour, and pounds per day.

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V. **Testing Requirements**

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible emissions of fugitive dust from the charging of the reactors shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).
 - b. Emission Limitation:
8 lbs OC/hr, 40 lbs/OC/day on days when photochemically reactive materials are employed.

Applicable Compliance Method:
Compliance shall be determined through the emission calculations in A.III.2.
 - c. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - d. Emission Limitations:
For the production of NaCOPA:

0.024 lb organic compounds (OC)/hr and 0.11 TPY

0.21 lb chlorine (Cl)/hr and 0.92 TPY

Applicable Compliance Methods:
If required, the permittee shall demonstrate compliance with the above emission limitations above by the emission factors, control efficiencies (if applicable) and the operational parameters as submitted in PTI application 14-2916.

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: P006 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
Fine chemicals system #1 with venturi scrubber - batch manufacturing of specialty chemicals	Air Toxics Policy	See B.III.1.

2. **Additional Terms and Conditions**

1. None

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II. **Operational Restrictions**

1. None

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III. **Monitoring and/or Record Keeping Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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IV. **Reporting Requirements**

1. None

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V. **Testing Requirements**

1. None

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: P008 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
benzotriazole manufacturing, equipped with an ejector venturi scrubber and thermal oxidizer (See A.VI.1 below.)	OAC rule 3745-17-07(B)(1)	Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
	OAC rule 3745-17-08(B)	See A.I.2.b.
	OAC rule 3745-21-07(G)	None, see A.I.2.a below.
	OAC rule 3745-21-09(DD)	See A.II.6.
	OAC rule 3745-17-07(A)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-17-08(B)(3).

2. **Additional Terms and Conditions**

- a. The permittee shall not employ any liquid organic material in this emissions unit that is a photochemically reactive material. "Photochemically reactive material" is defined in OAC rule 3745-21-01(C)(5).
- b. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design;
 - iii. all fugitive dust captured shall be vented to an ejector venturi scrubber capable of achieving an outlet emission rate of not greater than .030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there are no visible particulate emissions from the exhaust stack(s), whichever is less stringent: and
 - iv. when loading solid materials into the reactors, visible emissions of fugitive dust shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactors.

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II. **Operational Restrictions**

1. The scrubber liquor flow rate for ejector venturi scrubber P656 shall be continuously maintained at a value of not less than 112 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
2. The pH of the scrubber liquor for ejector venturi scrubber P656 shall be maintained at or above 6.

The pH may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative scrubber liquor pH ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
3. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation and Control Option #1 is used (see A.II.5 for the requirements of Control Option #1 and A.II.6 for the requirements of Control Option #2), shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
4. The permittee shall operate this emissions unit using Control Option #1, as specified below, provided that the thermal oxidizer is operating pursuant to the terms and conditions for emissions units P014 and P022. If the thermal oxidizer is not operating, then Control Option #2 shall be used. The Hamilton County Department of Environmental Services shall be notified immediately of the intention to switch from Control Option #1 to Control Option #2, except in the case of a start-up condition, during which the thermal oxidizer is undergoing the required heat-up procedure.
5. Control Option #1 (with Thermal Oxidizer):
 - a. Emissions from reaction vessel T-760 and barometric water vessel T-665 shall be vented to the atmosphere.
 - b. Emissions from reaction vessels T-660 and T-650 shall be vented through the ejector venturi scrubber.

- c. Emissions from reaction vessels T-901 or T-102 and the residue packout shall be vented to the thermal oxidizer.
 - d. Emissions from the vacuum system, vacuum jets, powder packout and flake packout shall be vented to the atmosphere.
6. Control Option #2 (without Thermal Oxidizer):
- a. Emissions from reaction vessel T-760 and barometric water vessel T-665 shall be vented to the atmosphere.
 - b. Emissions from reaction vessels T-660 and T-650 shall be vented through the ejector venturi scrubber.
 - c. Emissions from reaction vessels T-901 or T-102 and the residue packout shall be vented to the atmosphere.
 - d. Emissions from the vacuum system, vacuum jets, powder packout and flake packout shall be vented to the atmosphere.
7. Prior to employing organic materials which are not exempt from the requirements of OAC rule 3745-21-09 (DD), Leaks from Process Units That Produce Organic Chemicals, the permittee shall establish written procedures which will demonstrate compliance with all provisions of OAC rule 3745-21-09(DD) and shall notify the Hamilton County Department of Environmental Services so that these permit terms may be modified to incorporate the requirements of OAC rule 3745-21-09(DD).

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly install (within 6 months of the effective date of this permit), operate and maintain equipment to continuously monitor the ejector scrubber liquor flow rate and the pH of the ejector scrubber liquor while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

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

 - a. the ejector scrubber liquor flow rate, in gallons per minute, on a once per shift basis;
 - b. the pH of the ejector scrubber liquor, on a once per shift basis; and
 - c. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this 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 venturi scrubber and thermal oxidizer and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation and Control Option #1 is used. Units shall be in degrees Fahrenheit. The temperature monitor shall correspond to and record the time of day. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

 - a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than the temperature specified in term A.II.3.
 - b. A log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this emissions unit was in operation.
4. The permittee shall collect and record the following information each month:
 - a. The company identification of each liquid organic material employed in this emissions unit.
 - b. Documentation on whether or not each liquid organic material employed is a photochemically reactive material.
5. The permittee shall maintain records that contain a listing of the feed and raw materials and products of the process units along with an analysis demonstrating that these materials and products are in heavy liquid service as defined by OAC rule 3745-21-01(M)(10).

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained for ejector venturi scrubber P656 at or above the required levels:
 - a. the ejector scrubber liquor flow rate; and
 - b. the pH of the scrubber liquor.
2. The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer did not comply with the temperature limitation specified above.
3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
4. The permittee shall notify the Director (the Hamilton County Department of Environmental Services) of any monthly record showing the use of any noncomplying material (i.e., photochemically reactive material). This notification shall be in writing and shall be submitted within 30 days after any photochemically reactive material was employed.
5. Prior to any changes in the production of benzotriazole, the permittee shall notify the Hamilton County Department of Environmental Services as to whether the changes will result in the feed, raw materials or products of these process units no longer being classified as heavy liquids.
6. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the thermal oxidizer and/or the ejector venturi scrubber serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. Testing Requirements

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

Visible emissions of fugitive dust from the charging of the reactors shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitation above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).
 - b. Emission Limitation:

0.030 grPE/dscf from the scrubber

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the PE limitation above in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.
 - c. Emission Limitation:

No visible emissions from the stack associated with the ejector venturi scrubber.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the PE limitation above in accordance with Method 22 of 40 CFR, Part 60, Appendix A.
 - d. Compliance with OAC rule 3745-21-09(DD) shall be demonstrated by the record keeping requirements in A.III.4.
 - e. This emissions unit shall be included in the test of the thermal oxidizer which includes emissions units P014, P022 and P901. The specific stack test requirements for the thermal oxidizer test are specified in A.V.2 for emission unit P014.

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VI. Miscellaneous Requirements

1. This emissions unit was installed prior to February 15, 1972 and was an uncontrolled fugitive dust source located in an Appendix A area of OAC rule 3745-17-08. On or after February 15, 1972 a capture system

and control equipment were installed. The capture system partially collects the emissions previously emitted. Therefore, this emissions unit must employ reasonably available control measures (RACM) for the uncontrolled emissions and the control equipment discharge must comply with the OAC rule 3745-17-08(B) (3) PE limitation of 0.030 gr/dscf or have no VEs, whichever is less stringent.

2. The control requirements under Control Option 1 & 2 were required for resolution to a verified complaint (case #1000) where the company was found to be operating in violation of OAC rule 3745-15-07.

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Facility ID: 1431390137 Emissions Unit ID: P008 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
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2. Additional Terms and Conditions

1. None

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II. Operational Restrictions

1. None

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III. Monitoring and/or Record Keeping Requirements

1. None

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IV. Reporting Requirements

1. None

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V. Testing Requirements

1. None

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: P010 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
saccharin manufacturing process, equipped with an ejector venturi scrubber, packed bed scrubbers, spray chambers, and a baghouse (See A.VI.1. below.)	OAC rule 3745-17-07(B)(1)	Visible emissions of fugitive dust from reactor charging and product load out shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
	OAC rule 3745-17-08(B)	See A.I.2.a.
	OAC rule 3745-18-06(E)(2)	81.7 lbs sulfur dioxide (SO ₂)/hr
	OAC rule 3745-21-07(G)	None, see A.I.2.b below.
	40 CFR Part 63, Subpart FFFF	See Attachment 2 of this permit.
	OAC rule 3745-17-07(A)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-17-08(B)(3).

2. Additional Terms and Conditions

- a. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - (a)
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design;
 - iii. all fugitive dust captured shall be vented to a baghouse capable of achieving an outlet emission rate of not greater than .030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there are no visible particulate emissions from the exhaust stack(s), whichever is less stringent; and
 - iv. when loading solid materials into the reactors, visible emissions of fugitive dust shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactors.
 - b. The permittee shall not employ any liquid organic material in this emissions unit that is a photochemically reactive material. "Photochemically reactive material" is defined in OAC rule 3745-21-01(C)(5).

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II. Operational Restrictions

1. D801 shall be vented to preformed-spray wet scrubber F801.
2. T300, T320, T330, T151, T154, T152, T156, T153, T160, T953, and T956 shall be vented to packed bed scrubber X17FE and preformed-spray wet scrubber X17FE in series. T951 and T952 shall be vented to preformed-spray wet scrubber X17FE.
3. T350 shall be vented to packed bed scrubber X17-seal pot scrubber.
4. The emissions from the product packout line shall be vented to baghouse F880.
5. The pressure drop across the packed bed scrubber and the baghouse shall be continuously maintained within the following ranges at all times while the emissions unit is in operation:

- a. packed bed scrubber X17FE: 1 to 3 inches of water; and

b. baghouse F-880: 3 to 6 inches of water.

The pressure drop across the scrubbers or baghouse may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

6. The liquor flow rate to each scrubber shall be continuously maintained above the following minimum flow rates at all times while the emissions unit is in operation:

a. preformed-spray wet scrubber F801: not less than 10.2 gallons/minute;

b. packed bed scrubber X17FE: not less than 17 gallons/minute;

c. preformed-spray scrubber X17FE: not less than 4.3 gallons/minute;

d. packed bed scrubber X17 seal pot: not less than 5 gallons/minute; and

e. ejector venturi scrubber X17 coupler : not less than 2.5 gallons/minute.

The scrubber liquor flow rates may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

7. The pH of each scrubber shall be continuously maintained as follows at all times while the emissions unit is in operation:

a. packed bed scrubber X17FE: greater than or equal to 6;

b. packed bed scrubber X17 seal pot: greater than or equal to 6; and

c. ejector venturi scrubber X17 coupler :greater than or equal to 6.

The pH may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative scrubber liquor pH ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

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III. **Monitoring and/or Record Keeping Requirements**

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the packed bed scrubbers and baghouse, the scrubber liquor flow rate of each scrubber, and the pH of each scrubber liquor listed in A.II.7 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturers' recommendations, instructions and operating manuals. The above mentioned monitoring devices shall be installed and operational within 6 months of the effective date of the final Title V permit to operate.

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

a. the pressure drop across each of the packed bed scrubbers and the baghouse, in inches of water, on a once per shift basis;

b. the scrubber liquor flow rates, in gallons per minute, on a once per shift basis;

c. the pH of the scrubber liquor, on a once per shift basis;

d. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this emissions unit was in operation.

2. The permittee shall collect and record the following information each month:

a. The company identification of each liquid organic material employed in this emissions unit.

b. Documentation on whether or not each liquid organic material employed is a photochemically reactive material.

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 scrubbers and baghouse and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. the total duration of any visible emission incident; and

c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber and baghouse parameters were not maintained at or above the required levels:
 - a. the static pressure drop across each packed bed scrubber and the baghouse;
 - b. the liquor flow rate for each scrubber; and
 - c. the pH of the scrubber liquor for each scrubber listed in A.II.7.
2. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
3. The permittee shall notify the Director (the Hamilton County Department of Environmental Services) of any monthly record showing the use of any noncomplying material (i.e., photochemically reactive material). This notification shall be in writing and shall be submitted within 30 days after any photochemically reactive material was employed.
4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the scrubbers and baghouse serving this emissions unit, (b) identify all days during which any emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. Testing Requirements

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
No visible emissions from the exhaust stack of the baghouse.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the no visible emission limitations above in accordance with Method 22 of 40 CFR, Part 60, Appendix A.
 - b. Emission Limitation:
Visible emissions of fugitive dust from the charging of the reactors and product load out shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - c. Emission Limitation:
0.030 grPE/dscf from the baghouse

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the PE limitation above in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.
2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within six months of permit issuance.
 - b. The emission testing shall be conducted to demonstrate compliance with the sulfur dioxide emission limitation of 81.7 lbs/hr
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR, Part 60, Appendix A, Method 6. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s). Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the

operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

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VI. **Miscellaneous Requirements**

1. This emissions unit was installed prior to February 15, 1972 and was an uncontrolled fugitive dust source located in an Appendix A area of OAC rule 3745-17-08. On or after February 15, 1972 a capture system and control equipment were installed. The capture system partially collects the emissions previously emitted. Therefore, this emissions unit must employ reasonably available control measures (RACM) for the uncontrolled emissions and the control equipment discharge must comply with the OAC rule 3745-17-08(B) (3) PE limitation of 0.030 gr/dscf or have no VEs, whichever is less stringent.

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Facility ID: 1431390137 Emissions Unit ID: P010 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
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2. **Additional Terms and Conditions**

1. None

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II. **Operational Restrictions**

1. None

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III. **Monitoring and/or Record Keeping Requirements**

1. None

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IV. **Reporting Requirements**

1. None

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V. **Testing Requirements**

- 1. None

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VI. **Miscellaneous Requirements**

- 1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P011 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
isatoic anhydride (IA) manufacturing, equipped with a baghouse and thermal oxidizer	OAC rule 3745-31-05(A)(3) (PTI 14-0086)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A), 3745-17-07(B), 3745-17-08(B), 3745-17-11(B) and 3745-21-09(DD).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) from the baghouse and incinerator stacks associated with this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-07(B)(1)	Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
	OAC rule 3745-17-08(B)	See A.I.2.b.
	OAC rule 3745-17-11(B)	18.2 lbs of PE/hr from the stacks associated with this emissions unit (based on Table 1 of OAC rule 3745-17-11)*
	OAC rule 3745-21-07(G)	*The potential to emit for this emissions unit is less than the allowable emission rate established by OAC rule 3745-17-11(B).
	OAC rule 3745-21-09(DD)	None, see A.I.2.a. As provided for in OAC rule 3745-21-09(DD)(17)(a)(ii), this emission unit is exempt from the requirements of OAC rule 3745-21-09(DD)(2)-(6).

2. Additional Terms and Conditions

- a. The permittee shall not emit any liquid organic material in this emissions unit that is a photochemically reactive material. "Photochemically reactive material" is defined in OAC rule 3745-21-01(C)(5).
- b. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and
 - iii. all captured fugitive dust shall be vented to a baghouse.

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II. Operational Restrictions

1. The emissions from the IA reactor shall be vented to the "P" Off-Gas thermal oxidizer. The emissions from the blender and packaging operations shall be vented to a baghouse.
2. The average combustion temperature and residence time within the thermal oxidizer, 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 and shall be greater than or equal to 1 second, respectively.
3. Prior to employing organic materials which are not exempt from the requirements of OAC rule 3745-21-09 (DD), Leaks from Process Units That Produce Organic Chemicals, the permittee shall establish written procedures which will demonstrate compliance with all provisions of OAC rule 3745-21-09(DD) and shall notify the Hamilton County Department of Environmental Services so that these permit terms may be modified to incorporate the requirements of OAC rule 3745-21-09(DD).
4. The pressure drop across the baghouse associated with the IA blender and packaging operations shall be maintained within the range that shall be determined from manufacturer's specifications and recommendations while the emissions unit is in operation.

The pressure drop across the baghouse may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall install (within 6 months of the effective date of this permit), operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The temperature monitor shall correspond to and record the time of day. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

- a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than the temperature specified in term A.II.2.; and
 - b. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this emissions unit was in operation.
2. The permittee shall properly install (within 6 months after the effective date of this permit), operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a once per shift basis.
 3. The permittee shall collect and record the following information each month:
 - a. The company identification of each liquid organic material employed in this emissions unit.
 - b. Documentation on whether or not each liquid organic material employed is a photochemically reactive material.
 4. The permittee shall maintain records that contain a listing of the feed and raw materials and products of the process units along with an analysis demonstrating that these materials and products are in heavy liquid service as defined by OAC rule 3745-21-01(M)(10).
 5. 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 baghouse and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer did not comply with the temperature limitation specified above.

2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
4. The permittee shall notify the Director (the Hamilton County Department of Environmental Services) of any monthly record showing the use of any noncomplying materials (i.e., photochemically reactive materials). This notification shall be in writing and shall be submitted within 30 days after any photochemically reactive material was employed.
5. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
6. Prior to any changes in the production of isatoic anhydride, the permittee shall notify the Hamilton County Department of Environmental Services as to whether the changes will result in the feed, raw materials or products of these process units no longer being classified as heavy liquids.

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V. **Testing Requirements**

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible particulate emissions from the scrubber stacks shall not exceed 20 percent opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitation above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Compliance with OAC rule 3745-21-09(DD) shall be demonstrated by the record keeping requirements in A.III.5.
 - c. Emission Limitation:
18.2 lbs of PE/hr from the stacks

Applicable Compliance Method:
If required, compliance with the PE limitation shall be demonstrated by stack testing conducted in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: P011 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
2. Additional Terms and Conditions		
1. None		

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II. Operational Restrictions

1. None

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III. Monitoring and/or Record Keeping Requirements

1. None

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IV. Reporting Requirements

1. None

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V. Testing Requirements

1. None

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VI. Miscellaneous Requirements

1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P013 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
saccharin spray dryer with cyclonic scrubber and dust bag (fabric filter placed over drum while load out is occurring)	OAC rule 3745-31-05(A)(3) (PTI 14-077)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A), 3745-17-07(B), 3745-17-08(B) and 3745-17-11(B).
	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20 percent opacity, as a six-minute average, except as

OAC rule 3745-17-07(B)	specified by rule. Visible emissions of fugitive dust from the product pack-out for this emissions unit shall not exceed 20 percent opacity, as a three-minute average.
OAC rule 3745-17-08(B)	See A.I.2.a.
OAC rule 3745-17-11(B)	2.2 lbs of PE/hr from the scrubber stack (based on Table 1 of OAC rule 3745-17-11)

2. **Additional Terms and Conditions**

- a. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:

(a)

- i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control fugitive dust emissions;
- ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and
- iii. all fugitive dust captured shall be vented to a fabric filter.

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II. **Operational Restrictions**

1. The PE from product recovery cyclone S-1001 shall be vented to cyclonic scrubber X17-X-1005.
2. The pressure drop across cyclonic scrubber X17-X-1005 shall be continuously maintained at a value of not less than 8 inches of water at all times while the emissions unit is in operation.

The pressure drop across the scrubber may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
3. The scrubber liquor flow rate to cyclonic scrubber X17-X-1005 shall be continuously maintained at a value of not less than 150 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
4. The dust bag shall be securely attached to the collection drum. There shall be no visible PE from the dust bag.

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III. **Monitoring and/or Record Keeping Requirements**

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals. The above mentioned monitoring devices shall be installed and operational within 6 months of the effective date of the final Title V permit to operate.

The permittee shall collect and record the following information each day:
 - a. the pressure drop across the scrubber, in inches of water, on a once per shift basis;
 - b. the scrubber liquor flow rate, in gallons per minute, on a once per shift basis; and
 - c. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this 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 cyclonic scrubber and for any visible emissions of fugitive dust from the egress points (i.e., dust bag, building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:
 - a. the static pressure drop across the scrubber; and
 - b. the scrubber liquor flow rate.
2. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the cyclonic scrubber serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., dust bag, building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. Testing Requirements

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible PE from the scrubber stack shall not exceed 20 percent opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitations above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitation:
2.2 lbs of PE/hr from the scrubber stack

Applicable Compliance Method:
If required, compliance with the PE limitation shall be demonstrated by stack testing conducted in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.
 - c. Emission Limitation:
Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: P013 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
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2. **Additional Terms and Conditions**

1. None

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II. **Operational Restrictions**

1. None

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III. **Monitoring and/or Record Keeping Requirements**

1. None

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IV. **Reporting Requirements**

1. None

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V. **Testing Requirements**

1. None

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VI. **Miscellaneous Requirements**

1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P014 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
anthranilic acid (AA) manufacturing system reactor, equipped with a thermal oxidizer and ejector venturi scrubber	OAC rule 3745-31-05(A)(3) (PTI 14-05234)	organic compounds (OC) emissions from the AA reactor: stack OC: 37.41 lbs/day, 12.5 lbs/batch

		<p>fugitive OC: 2.34 lbs/day, 0.8 lb/batch total OC: 7.25 tons per year (TPY)</p> <p>particulate emissions (PE)* from the AA reactor:</p> <p>fugitive emissions: 1.26 lbs/day, 0.4 lb/batch total emissions: 0.23 TPY PM</p> <p>from the NaPMC reaction:</p> <p>fugitive emissions: 29.25 lb/day 9.8 lbs/batch total emissions: 5.34 TPY</p> <p>See terms A.II.5 and A.II.8.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(B)(1), 3745-17-08(B), 3745-21-09(DD), and 3745-21-09 (YY).</p> <p>* Assume all PE is PM10.</p>
	OAC rule 3745-17-07(B)(1)	<p>Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.</p>
	OAC rule 3745-17-08(B)	See term A.I.2.c.
	OAC rule 3745-21-07(G)	See term A.II.6.
	OAC rule 3745-21-09(DD)	See terms A.II.5 and A.III.5.
	OAC rule 3745-21-09(YY)	<p>Any VOC emissions from the reactor process vent streams from this emissions unit shall be vented to an enclosed combustion device that is designed and operated to reduce the VOC emissions by at least 95 percent, by weight.</p> <p>OC emissions from the AA spray dryer:</p>
anthranilic acid (AA) manufacturing system (spray dryer equipped with a ejector venturi wet scrubber)	OAC rule 3745-31-05(A)(3) (PTI 14-05234)	<p>stack OC: 9.84 lbs/day fugitive OC: 30.48 lbs/day total OC: 7.36 TPY</p> <p>PE* from the AA spray dryer:</p> <p>stack emissions: 0.72 lb/hour, 17.28 lbs/day fugitive emissions: 20.5 lb/day total emissions: 6.89 TPY PM</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), 3745-17-07(B)(1), 3745-17-08(B)(3), and 3745-21-09 (DD).</p> <p>* Assume all PE is PM10.</p>
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-07(B)(1)	Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)	The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).
anthranilic acid (AA) manufacturing system reactor and manufacturing system, equipped with a thermal oxidizer, spray dryer, and ejector venturi scrubber	OAC rule 3745-21-09(DD)	See terms A.II.5 and A.III.5.
	40 CFR Part 63, Subpart FFFF	See Attachment 2 of this permit.
<p>2. Additional Terms and Conditions</p> <p>a. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the production limitation, the use of a thermal oxidizer to control the reactor emissions, and the use of a ejector venturi scrubber to control spray drying emissions.</p> <p>b. The lb(s)/batch allowables in term A.I.1 above are based upon maximum values listed in the air permit to install application for this emissions unit. If these maximum values change, then the permittee shall</p>		

implement term and condition A.IV.5.

- c. When loading solid materials into the reactors, particulate emissions shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactor.

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II. Operational Restrictions

1. The permittee shall operate the ejector venturi scrubber (AA-05) and thermal oxidizer (AA-01) according to the manufacturers' specifications.
2. The liquor flow rate of ejector venturi scrubber AA-05 shall be continuously maintained at a value of not less than 39 gallons per minute, or the value established during the most recent performance test which demonstrated compliance, at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

3. The average combustion temperature within the thermal oxidizer, 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.
4. The maximum number of batches produced in this emissions unit shall not exceed 3 per day.
5. Prior to employing organic materials which are not exempt from the requirements of OAC rule 3745-21-09 (DD), Leaks from Process Units That Produce Organic Chemicals, the permittee shall establish written procedures which will demonstrate compliance with all provisions of OAC rule 3745-21-09(DD) and shall notify the Hamilton County Department of Environmental Services so that these permit terms may be modified to incorporate the requirements of OAC rule 3745-21-09(DD).
6. The use of photochemically reactive material in this emissions unit, as defined in OAC rule 3745-21-01(C)(5), is prohibited.
7. Emissions from the AA product recovery cyclone, the product blender, and product packout shall be vented to the ejector venturi AA scrubber.
8. The emissions from T-300 shall be vented to the thermal oxidizer.

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly install (within 6 months after the effective date of this permit), operate and maintain equipment to continuously monitor the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

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

- a. the liquor flow rate of scrubber AA-05, in gallons per minute, on a once per shift basis.

2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within thermal oxidizer AA-01 when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The temperature monitor shall correspond to and record the time of day. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

- a. All 3-hour blocks of time during which the average combustion temperature within thermal oxidizer AA-01, when the emissions unit was in operation, was less than the temperature specified in term A.II.3.

3. The permittee shall collect and record the following information for each day:
 - a. A log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this emissions unit was in operation.
4. The permittee shall maintain daily records of the number of batches produced and the type of material produced.
5. The permittee shall maintain records that contain a listing of the feed and raw materials and products of the process units along with an analysis demonstrating that these materials and products are in heavy liquid service as defined by OAC rule 3745-21-01(M)(10).
6. The permittee shall collect and record the following information each month:

- a. The company identification of each liquid organic material employed in this emissions unit.
 - b. A record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is a photochemically reactive material, as identified in OAC rule 3745-21-01(C)(5).
7. 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 scrubber and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the liquor flow rate of scrubber AA-05 was not maintained at the required level as specified in term A.II.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within thermal oxidizer AA-01 did not comply with the temperature limitation specified above in term A.II.3.
3. The permittee shall submit quarterly deviation (excursion) reports that identify the each day during which the number of batches of material produced exceeded three and the actual number of batches produced for each such day.
4. The quarterly deviation reports shall be submitted in accordance with the reporting requirements as specified in Part 1 - General Terms and Conditions A.1.c.
5. Prior to any changes in the production of anthranilic acid, the permittee shall notify the Hamilton County Department of Environmental Services as to whether the changes will result in the feed, raw materials or products of these process units no longer being classified as heavy liquids.
6. Prior to any change in the materials listed in this application, the permittee shall provide documentation to this agency to demonstrate that they will still be able to comply with the emission limitations outlined in this permit. If the emission limitations will be exceeded by the change, the permittee shall submit a new permit to install application.
7. The permittee shall notify the Hamilton County Department of Environmental Services in writing identifying each day during which any photochemically reactive material (as defined in OAC rule 3745-21-01(C)(5)) was employed in this emissions unit. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of organic compound emissions emitted each such day. This report shall be submitted to the Hamilton County Department of Environmental Services within 45 days after the exceedance occurs.
8. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the scrubber serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. Testing Requirements

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

Visible PE from any stack shall not exceed 20 percent opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitations above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitation:

Fugitive emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitations above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

- c. Compliance with OAC rule 3745-21-09(DD) shall be demonstrated by the record keeping requirements in term A.III.5.
 - d. Emission Limitation:
All VOC emissions from the reactor process vent streams reduced by at least 95 percent, by weight.

Applicable Compliance Method:
Compliance with the minimum VOC reduction requirement shall be demonstrated by the stack testing required in section A.V.2 of these terms and conditions.
 - e. Compliance with the PE/PM10 and OC emission limitations outlined in this permit shall be demonstrated by the emission factors, control efficiencies (if applicable) and the operational parameters as submitted in the PTI application 14-05234 submitted 10/23/01. The lbs/batch numbers are based on the calculations submitted in the above noted PTI application.
2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted within 3 months after commencement of operation for P014 following the effective date of the permit, the third year of the permit, and within 6 months prior to permit expiration.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for particulate matter from the AA scrubber and the organic compound destruction efficiency of the thermal oxidizer. Testing of the thermal oxidizer shall include a test of the control efficiency when only emissions unit P014 is vented to the oxidizer and an additional test when all emissions units that are vented to the thermal oxidizer are operating (P008, P022 and P901). In no case shall the emission testing for the group be conducted later than 1 year after the effective date of this permit. Other units may operate in the oxidizer bypass mode when P014 is being tested alone.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

For particulate emissions from the AA Scrubber, Methods 1-5 of 40 CFR Part 60, Appendix A

The 95% OC control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or other approved alternative test protocol. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.
 - d. The permittee also shall calculate and record the retention time for the thermal oxidizer as shown during the emission tests.
 - e. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.
- Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services' refusal to accept the results of the emission test(s). Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

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VI. **Miscellaneous Requirements**

- 1. None

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Facility ID: 1431390137 Emissions Unit ID: P014 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
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2. Additional Terms and Conditions

- 1. None

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II. Operational Restrictions

- 1. None

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III. Monitoring and/or Record Keeping Requirements

- 1. None

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IV. Reporting Requirements

- 1. None

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V. Testing Requirements

- 1. None

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VI. Miscellaneous Requirements

- 1. None

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Facility ID: 1431390137 Emissions Unit ID: P022 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
methyl anthranilate manufacturing process, equipped with a cartridge filter and thermal oxidizer	OAC rule 3745-31-05(A)(3) (PTI 14-2103)	4.04 lbs organic compounds(OC)/hr* 17.7 TPY OC* 0.42 lb particulate emissions (PE)/hr* 1.84 TPY PE*
		*The lbs/hr and TPY emission limitations established in PTI 14-2103 were based on the emissions unit's potentials to emit.
	OAC rule 3745-17-07(A)(1)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and OAC rule 3745-21-09(YY). Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See A.I.2.
	OAC rule 3745-21-09(YY)	See Attachment 2 of this permit.
	40 CFR Part 63, Subpart FFFF	

2. **Additional Terms and Conditions**

- a. All VOC emissions from the reactor process vent streams from this emissions unit shall be vented to an enclosed combustion device that is designed and operated to reduce the VOC emissions by at least 95 percent, by weight.

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II. **Operational Restrictions**

- 1. The emissions from T-201 shall be vented to the cartridge filter (fabric filter) at all times.
- 2. The average combustion temperature within the thermal oxidizer, 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.

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III. **Monitoring and/or Record Keeping Requirements**

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

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

- a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than the temperature specified in term A.II.2.
- b. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when the associated emissions unit was in operation.

- 2. The permittee shall perform quarterly inspections of the cartridge filter controlling this emissions unit. At a minimum, these quarterly inspections shall include the following:

- a. a visual leak check of the duct work leading to the cartridge filter to ensure no leaks are occurring.
- b. a visual inspection of the cartridge filter to look for holes, punctures, perforations, or any other indication of problems leading to the filter not functioning properly.
- c. a check of any visible emissions exiting the cartridge filter.

The permittee shall collect and record the results of this inspection in a log book. If any problems are noted during the quarterly inspection, the measures taken to correct the problem shall be noted.

- 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 cartridge filter serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

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

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer did not comply with the temperature limitation specified in A.II.2.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all quarters the inspection of the cartridge filter required in A.III.2 did not take place.
3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the cartridge filter serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. Testing Requirements

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible PE from any stack shall not exceed 20 percent opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitation above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitation:
All VOC emissions from the reactor process vent streams reduced by at least 95 percent, by weight.

Applicable compliance method:
This emissions unit shall be included in the test of the thermal oxidizer which includes emissions units P014, P008 and P901. The specific stack test requirements for the thermal oxidizer test are specified in Section A.V.2 for emission unit P014.
 - c. Emission Limitations:
4.04 lbs of OC/hr and 17.7 TPY of OC
0.42 lb of PE/hr and 1.84 TPY of PE

Applicable Compliance Methods:
Compliance with the PE/PM10 and OC emission limitations outlined in this permit shall be demonstrated by the emission factors, control efficiencies (if applicable) and the operational parameters as submitted in the PTI application 14-02103.

If required, compliance with the lbs/hr emission limitations shall be demonstrated by stack testing conducted in accordance with the following methods:

For PE, Methods 1 - 5 of 40 CFR, Part 60, Appendix A
For OC, Methods 1 - 4 and 25 or 25A of 40 CFR, Part 60, Appendix A

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: P022 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
methyl anthranilate manufacturing process with cartridge filter and thermal oxidizer	Air Toxics Policy	See B.III.

2. Additional Terms and Conditions

- 1. None

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II. Operational Restrictions

- 1. None

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III. Monitoring and/or Record Keeping Requirements

- 1. "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 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the Screen 3 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
 TLV (ug/m3): 262,000
 Maximum Hourly Emission Rate (lbs/hr): 3.92
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 10.58
 MAGLC (ug/m3): 3743

Physical changes to or in the method of operation of the emissions unit after it's installation or modification could affect the parameters used to determine whether or not the "Air Toxics 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 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 the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled.
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled.
- 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 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy".

c. Where the 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.

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IV. Reporting Requirements

- 1. None

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V. Testing Requirements

- 1. None

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VI. Miscellaneous Requirements

- 1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P023 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
methanol recovery unit	OAC rule 3745-31-05(A)(3) (PTI 14-3255)	0.65 lb of organic compounds (OC)/hr* 2.85 TPY OC*
	OAC rule 3745-21-07(G) 40 CFR Part 63, Subpart FFFF	*The lb/hr and TPY emission limitations established in PTI 14-3255 were based on the emissions unit's potentials to emit. Therefore, no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance. None (See A.II.1.) See Attachment 2 of this permit.

2. Additional Terms and Conditions

- (a) None

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II. Operational Restrictions

- 1. The permittee shall not employ any liquid organic material in this emissions unit that is a photochemically reactive material. "Photochemically reactive material" is defined in OAC rule 3745-21-01(C)(5).

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month:
 - a. The company identification of each liquid organic material employed in this emissions unit.
 - b. Documentation on whether or not each liquid organic material employed is a photochemically reactive material.

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IV. Reporting Requirements

1. The permittee shall notify the Director (the Hamilton County Department of Environmental Services) of any monthly record showing the use of any noncomplying materials (i.e., photochemically reactive materials). This notification shall be in writing and shall be submitted within 45 days after any photochemically reactive material was employed.

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V. Testing Requirements

1. Emission Limitations:
0.65 lb of OC/hr and 2.85 TPY of OC

Applicable Compliance Method:
If required, compliance with the lb/hr emission limitation shall be demonstrated by stack testing conducted in accordance with Methods 1 - 4 and 25 or 25A of 40 CFR, Part 60, Appendix A.

As long as compliance with the hourly limitation is maintained, compliance with the annual limitation shall be ensured (the annual limitation was determined by multiplying the hourly emission rate by 8760 hrs, and then dividing by 2000 lbs/ton).

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: P023 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
methanol recovery unit	Air Toxics Policy	See B.III.
2. Additional Terms and Conditions		
1. None		

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II. Operational Restrictions

1. None

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III. Monitoring and/or Record Keeping Requirements

1. "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 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the Screen 3 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
 TLV (ug/m3): 262,000
 Maximum Hourly Emission Rate (lbs/hr): 3.92
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 10.58
 MAGLC (ug/m3): 3743

Physical changes to or in the method of operation of the emissions unit after it's installation or modification could affect the parameters used to determine whether or not the "Air Toxics 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 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 the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled.
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled.
- 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 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy".
- c. Where the 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.

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IV. Reporting Requirements

1. None

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V. Testing Requirements

1. None

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: P025 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
fine chemical systems 300 and 400, equipped with two ejector venturi scrubbers and one packed bed scrubber (scrubbers are not in series)	OAC rule 3745-31-05(A)(3) (PTI 14-3752)	12.4 lbs/day ammonia, 2.26 TPY ammonia
		2.88 lbs/day organic compounds (OC), 0.52 TPY OC
		1.06 lbs/day acid vapor, 0.20 TPY acid vapor
		7.01 lbs/day SO ₂ , 1.28 TPY SO ₂
		0.22 lb/day particulate emissions(PE)/PM ₁₀ , 0.04 TPY PE/PM ₁₀
		The requirements of this rule also includes compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-07(B)(1) and OAC rule 3745-17-08 (B).
		Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-07(A)(1)	Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
	OAC rule 3745-17-07(B)(1)	See A.I.2.a.
	OAC rule 3745-17-08(B)	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 3745-17-11(B)	The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)	See Attachment 2 of this permit.
	40 CFR Part 63, Subpart FFFF	

2. Additional Terms and Conditions

- a. The permittee shall employ reasonably available control measures (RACM) at all times for the control of the fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions;
 - (a)
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design;
 - iii. all fugitive dust captured shall be vented to the scrubbers; and
 - iv. when loading solid materials into the reactors, fugitive PE shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactor.

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II. Operational Restrictions

- 1. The number of batch starts per day shall not exceed the following:
 - a. system 300 Reactors: 3 ; and
 - b. system 400 Reactors: 4.

2. The emissions from reactors T330, T350, and T370 shall be vented to packed bed scrubber E830.
3. The emissions from reactors T400, T420, and T451 shall be vented to ejector venturi scrubber P445.
4. When XBINX is being produced, the emissions from reactors T350 and T370 shall be vented to packed bed scrubber E830 or ejector venturi scrubber P356.
5. The pressure drop across packed bed scrubber E830 shall be continuously maintained at a value of not less than 3.5 inches of water at all times while the emissions unit is in operation.

The pressure drop across the scrubber may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
6. a. The scrubber liquor flow rate for packed bed scrubber E830 shall be continuously maintained at a value of not less than 34.8 gallons of water per minute at all times while the emissions unit is in operation.

b. The scrubber liquor flow rate to ejector venturi scrubbers P445 and P356 shall be continuously maintained at a value of not less than (to be determined*) at all times while the emissions unit is in operation.

*The minimum ejector venturi scrubber liquor flow rates shall be based on the manufacturer's specification and recommendations.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
7. The pH of the scrubber liquor for scrubbers E830 and P445 shall be continuously maintained at equal to or greater than 6 at all times while the emissions unit is in operation:

The pH may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative scrubber liquor pH ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day:
 - a. the number of batch starts in system 300 reactors;
 - b. the number of batch starts in system 400 reactors; and
 - c. the products produced in each of the system 300 and 400 reactors.
2. Within 6 months of the effective date of this permit, the permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the packed bed scrubber E830, the scrubber liquor flow rate for scrubbers E830, P445 and P356 and the pH of the scrubber liquor for scrubbers E830 and P445 while the emissions unit is in operation. For scrubbers E830, P445, and P356, the monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:
 - a. the pressure drop across the E830 packed bed scrubber, in inches of water, on a once per shift basis;
 - b. the scrubber liquor flow rate for each scrubber, in gallons per minute, on a once per shift basis;
 - c. the pH of the scrubber liquor for each scrubber E830 and P445, on a once per shift basis; and
 - d. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment, when this associated emissions unit was in operation.
3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
4. 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 scrubbers and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. **Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify all days during which the batch limitations outlined in A.II.1. were exceeded.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at the required levels:
 - a. the static pressure drop across the E830 packed bed scrubber;
 - b. the liquor flow rates for each of the scrubbers; and
 - c. the pH of the scrubber liquor for each of the scrubbers E830 and P445.
3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the scrubbers serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. **Testing Requirements**

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible PE from any stack shall not exceed 20 percent opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitation above through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitations:
12.4 lbs/day ammonia, 2.26 TPY ammonia
2.88 lbs/day organic compounds (OC), 0.52 TPY OC
1.06 lbs/day acid vapor, 0.20 TPY acid vapor
7.01 lbs/day SO₂, 1.28 TPY SO₂
0.22 lb/day particulate emissions(PE)/PM₁₀, 0.04 TPY PE/PM₁₀

Applicable Compliance Methods:
If required, the permittee shall demonstrate compliance with the above emission limitations above by the emission factors, control efficiencies (if applicable) and the operational parameters as submitted in PTI application 14-3752 submitted 12/16/94 and revised 8/11/95.
 - c. Emission Limitation:
Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: P025 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
fine chemical systems 300 and 400 w/ two ejector venturi scrubbers and one packed bed scrubber (scrubbers are not in series)	Air Toxics Policy	See B.III.1.

2. Additional Terms and Conditions

1. None

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II. Operational Restrictions

1. None

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III. Monitoring and/or Record Keeping Requirements

1. The permit to install for this emissions unit, P025 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the Screen 3 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the Screen 3 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ammonia
 TLV (ug/m3): 17,000
 Maximum Hourly Emission Rate (lbs/hr): 2.77
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 247.6
 MAGLC (ug/m3): 404.76

Pollutant: SO2
 TLV (ug/m3): 5200
 Maximum Hourly Emission Rate (lbs/hr): .52
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 35.88
 MAGLC (ug/m3): 124

Physical changes to or in the method of operation of the emissions unit after it's installation or modification could affect the parameters used to determine whether or not the "Air Toxics 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 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 the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled.
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled.
- 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 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy".
- c. Where the 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.

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IV. Reporting Requirements

- 1. None

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V. Testing Requirements

- 1. None

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VI. Miscellaneous Requirements

- 1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P027 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
fine chemicals system II, equipped with a packed bed scrubber	OAC rule 3745-31-05(A)(3) (PTI 14-4460)	0.38 lb volatile organic compound (VOC)/hr from the exhaust gases from packed bed scrubber X289* 1.7 lbs VOC/hr from vent P200* 8.8 lbs VOC/day from fugitive emissions* 1.64 TPY total annual VOC (stack emissions from P200 and X289 + fugitive)* 9.11 lbs particulate emissions (PE)/PM10/day* 1.66 TPY PE/PM10*

*The lbs/hr and TPY emission limitations established in PTI 14-4460 were based on the emission unit's potentials to emit.

See A.I.2.a and A.I.2.b.

- | | | |
|--|------------------------------|--|
| | | The requirements of this rule also includes compliance with the requirements of OAC rules 3745-17-07(B)(1), 3745-17-07(A) and 3745-17-08(B). |
| | OAC rule 3745-17-07(B)(1) | Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule. |
| | OAC rule 3745-17-08(B) | See A.I.2.c. |
| | OAC rule 3745-21-09(YY) | See A.I.2.a. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule. |
| | OAC rule 3745-17-11(B) | The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| | 40 CFR Part 63, Subpart FFFF | See Attachment 1 of this permit. |
2. **Additional Terms and Conditions**
- a. The permittee shall operate and maintain the packed bed scrubber in a manner that will reduce the VOC emissions by a minimum of 98 percent by weight.
 - b. The permittee shall use a nitrogen-purged centrifuge.
 - c. The permittee shall employ reasonably available control measures (RACM) at all times for the control of the fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design;
 - iii. all fugitive dust captured shall be vented to the scrubber; and
 - iv. when loading solid materials into the reactors, fugitive PE shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactor.

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II. Operational Restrictions

1. The emissions from reactors T200, T220, T230, T280, and X-200 shall be vented to packed bed scrubber X289.
2. The pressure drop across packed bed scrubber X289 shall be continuously maintained at a value of not less than 0.13 inch of water during all times while the emissions unit is in operation.

The pressure drop across the scrubber may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
3. The scrubber liquor flow rate for scrubber X289 shall be continuously maintained at a value of not less than 3.3 gallons of water per minute during all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

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III. Monitoring and/or Record Keeping Requirements

1. For packed bed scrubber X289, the permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

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

 - a. the pressure drop across the scrubber, in inches of water, on a once per shift basis;
 - b. the scrubber liquor flow rates for scrubber, in gallons per minute, on a once per shift basis; and
 - c. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment,

when this 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 scrubber and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at the required levels:
 - a. the static pressure drop across the scrubber; and
 - b. the liquor flow rate for the scrubber.
2. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the scrubber serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. Testing Requirements

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

Visible PE from the scrubber stack shall not exceed 20 percent opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitations above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitations:

0.38 lb of VOC/hr from the exhaust gases from packed bed scrubber X289 and 1.7 lbs VOC/hr from vent P200

8.8 lbs of VOC/day from fugitive emissions and 1.64 TPY total annual VOC (stack emissions from P200 and X289 + fugitive)

9.11 lbs of PE/PM10/day and 1.66 TPY PE/PM10

Applicable Compliance Methods:
If required, the permittee shall demonstrate compliance with the above emission limitations by the stack test results required in A.V.2. and the emission factors, control efficiencies (if applicable) and the operational parameters as submitted in PTI application 14-4460 submitted 9/29/97 and revised 2/25/98.
 - c. Emission Limitation:

Visible emissions of fugitive dust from the charging of the reactors shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).
2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months after commencing operations/startup of production involving this emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for volatile organic compounds from scrubber X289 and vent P200 (unless the permittee demonstrates that it is not technically feasible to test this egress point) listed in A.I.1 of this permit. Testing of scrubber

X289 shall also include testing of the inlet to determine the control efficiency for VOC from the scrubber.

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

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10. The test methods and procedures selected to determine the mass emission rate shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services' refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

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VI. **Miscellaneous Requirements**

- 1. None

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Facility ID: 1431390137 Emissions Unit ID: P027 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
fine chemicals system II with packed bed scrubber	Air Toxics Policy	See B.III.1.

2. **Additional Terms and Conditions**

- 1. None

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II. **Operational Restrictions**

- 1. None

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III. **Monitoring and/or Record Keeping Requirements**

1. The permit to install for this emissions unit, P027 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the Screen 3 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the Screen 3 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol from scrubber X289
 TLV (ug/m3): 262,000
 Maximum Hourly Emission Rate (lbs/hr): 0.38
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 177.2
 MAGLC (ug/m3): 3742.86

Pollutant: Methanol from P200
 TLV (ug/m3): 262,000
 Maximum Hourly Emission Rate (lbs/hr): 1.7
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 269.2
 MAGLC (ug/m3): 3742.86

Physical changes to or in the method of operation of the emissions unit after it's installation or modification could affect the parameters used to determine whether or not the "Air Toxics 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 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 the "Air Toxic Policy" include the following:

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

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

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 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy".

c. Where the 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.

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IV. **Reporting Requirements**

1. None

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V. **Testing Requirements**

1. None

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VI. **Miscellaneous Requirements**

1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P028 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
20 MMBtu/hr natural gas spray dryer heater	OAC rule 3745-31-05(A)(3) (PTI 14-0086)	The PTI required compliance with applicable law at the time of issuance of the permit.
	OAC rule 3745-17-07(A)	This emissions unit is exempt from the visible particulate emission limitations in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
	OAC rule 3745-17-11	The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-10(B)(14), is equal to zero.
	OAC rule 3745-21-08(B)	None, see A.I.2.a below.
	OAC rule 3745-23-06(B)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	Exempt, see A.I.2.c below.

2. Additional Terms and Conditions

- a. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 14-0086.
- (a) On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
- b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 14-0086.
- c. OAC rule 3745-18-06(E) does not apply because the process is less than 1000 pounds per hour pursuant to OAC rule 3745-18-06(C).

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II. Operational Restrictions

- 1. The permittee shall burn only natural gas in this emissions unit.

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III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

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IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

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V. Testing Requirements

1. None

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: P028 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
2. Additional Terms and Conditions			
1.	None		

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II. Operational Restrictions

1. None

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III. Monitoring and/or Record Keeping Requirements

1. None

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IV. Reporting Requirements

1. None

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V. **Testing Requirements**

1. None

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VI. **Miscellaneous Requirements**

1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P901 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
tolyltriazole manufacturing, equipped with a NOx venturi scrubber and NOx packed column scrubber in series, a product packout venturi scrubber, carbon adsorber, and thermal oxidizer	OAC rule 3745-31-05(A)(3) (PTI 14-4456)	See A.I.2. and A.II.
	OAC rule 3745-17-07(A)(1)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-07(B)(1) and OAC rule 3745-17-08(B)(3).
	OAC rule 3745-17-07(B)(1)	Visible particulate emissions (PE) from the stacks associated with this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-08(B)	Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
	OAC rule 3745-17-11(B)	See A.I.2.d.
	OAC rule 3745-21-07(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
		The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**

- a. The following emission limitations for this emissions unit shall not be exceeded when the primary control plan is used:

(a)

- i. For the thermal oxidizer stack (Vent Y)- continuous process:

- (a) 0.085 pound per hour organic compounds(OC), 0.37 TPY OC;
- (b) 8.71 pounds per hour nitrogen oxides(NOx), 38.15 TPY NOx; and
- (c) 0.001 pound per hour acid vapor, 0.0044 TPY acid vapor.

- ii. From all other stacks, combined, 0.72 pound per hour OC, 3.15 TPY OC from other stacks combined - continuous process.

iii. For the manufacture of batch products:

- (a) 1.20 pound per batch OC, 0.25 TPY OC; and
- (b) 0.39 pound per batch NOx, 0.37 TPY NOx.

iv. For fugitive emissions:

- (a) 2.28 TPY OC;
- (b) 1.49 TPY acid vapor; and
- (c) 0.21 pound per hour PE/PM10, 0.92 TPY PE/PM10.

The Primary Control Device Configuration shall be defined by the confidential process flow diagram labeled "Tolytriazole Manufacturing Primary Control Configuration" and the supporting emission calculations contained in PTI application 14-04456 submitted on 9/22/97 and revised on 1/9/98.

b. The following emission limitations for this emissions unit shall not be exceeded when the primary back-up control plan is used:

i. For the thermal oxidizer stack (Vent Y)- continuous process:

- (a) 0.079 pound per hour OC, 0.35 TPY OC; and
- (b) 1.24 pounds per hour NOx, 5.43 TPY NOx.

ii. For the NOx Scrubber Outlet (venturi and packed column in series - either Vent A or X) - continuous process:

- (a) 0.12 pound per hour OC, 0.53 TPY OC;
- (b) 7.36 pounds per hour NOx, 32.24 TPY NOx; and
- (c) 0.018 pound per hour acid vapor, 0.079 TPY acid vapor.

iii. From all other stacks, combined, 0.72 pound per hour OC, 3.15 TPY OC from other stacks combined - continuous process.

iv. For the manufacture of batch products:

- (a) 1.20 pounds per batch OC, 0.25 TPY OC; and
- (b) 0.39 pound per batch NOx, 0.37 TPY NOx.

v. For fugitive emissions:

- (a) 2.28 TPY OC;
- (b) 1.49 TPY acid vapor; and
- (c) 0.21 pound per hour PE/PM10, 0.92 TPY PE/PM10.

The Primary Back-Up Control Device Configuration shall be defined by the confidential process flow diagram labeled "Tolytriazole Manufacturing Primary Back-Up Control Configuration" and the supporting emission calculations contained in PTI application 14-04456 submitted on 9/22/97 and revised on 1/9/98.

c. The following emission limitations for this emissions unit shall not be exceeded when the secondary back-up control plan is used:

i. For the thermal oxidizer by-pass stack (Vents X and A combined)- continuous process:

- (a) 0.91 pound per hour OC, 3.99 TPY OC;
- (b) 0.26 pounds per hour PE/PM10, 1.14 TPY PE/PM10;
- (c) 7.36 pounds per hour NOx, 32.24 TPY NOx; and
- (d) 0.018 pound per hour acid vapor, 0.079 TPY acid vapor.

ii. For the NOx scrubber outlet (venturi and packed column in series; back-up = not combined with Vent X) - continuous process:

- (a) 0.12 pound per hour OC, 0.53 TPY OC;
- (b) 7.36 pounds per hour NOx, 32.24 TPY NOx; and
- (c) 0.018 pound per hour acid vapor, 0.079 TPY acid vapor.

iii. For the carbon adsorber outlet, 0.053 pound per hour OC, 0.23 TPY OC - continuous process.

iv. For all other stacks, combined, 0.72 pound per hour OC, 3.15 TPY OC - continuous process.

v. For the manufacture of batch products, 21.79 pounds per batch OC, 4.51 TPY OC.

vi. For fugitive emissions:

- (a) 2.28 TPY OC;
- (b) 1.49 TPY acid vapor; and
- (c) 0.21 pound per hour PE/PM10, 0.92 TPY PE/PM10.

The Secondary Back-Up Control Device Configuration shall be defined by the confidential process flow diagram labeled "Tolytriazole Manufacturing Secondary Back-Up Control Configuration" and the supporting emission calculations contained in PTI application 14-04456 submitted on 9/22/97 and revised on 1/9/98.

- d. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control the fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design;
 - iii. all fugitive dust captured shall be vented to the scrubbers;
 - iv. when loading solid materials into the reactors, fugitive emissions shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactor; and
 - v. when product grinding or product loadout is occurring, the capture efficiency of the collection and control system venting to the TT dust scrubber shall be sufficient to minimize or eliminate visible emissions of fugitive dust.

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II. Operational Restrictions

1. The primary control plan as specified in A.1.2.a. shall be used at all times except for unforeseeable circumstances due to malfunctions, weather, etc. that may hinder normal operating conditions.
2. The average combustion temperature and residence time within the thermal oxidizer, 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 and shall be greater than or equal to 1 second, respectively.
3. The pressure drop across the inlet of the NOx venturi scrubber and the outlet of the NOx packed column scrubber operated in series shall be continuously maintained at a value of not less than 1 inch of water at all times while the emissions unit is in operation.

The pressure drop across the scrubber may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
4. The NOx venturi scrubber liquor flow rate shall be continuously maintained at a value of not less than 30 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
5. The NOx packed column scrubber liquor flow rate shall be continuously maintained at a value of not less than 20 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
6. The pH of the NOx venturi scrubber liquor shall be maintained at or above 6.

The pH may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative scrubber liquor pH ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
7. The pressure drop across the product packout venturi scrubber shall be continuously maintained at a value

between 4 and 6 inches of water at all times while the emissions unit is in operation.

The pressure drop across the scrubber may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

8. The product pack out venturi scrubber liquor flow rate shall be continuously maintained at a value of not less than 21 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

9. The permittee shall determine carbon adsorber breakthrough by using Draeger tubes or other approved methods by Hamilton County Department of Environmental Services. A reading of 5 PPM total organic compounds exiting the carbon drum shall indicate breakthrough has occurred. At this time either a different control option identified within this permit shall be utilized or new carbon shall be added.

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III. Monitoring and/or Record Keeping Requirements

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

The permittee shall collect all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than the temperature specified in term A.II.2.

2. The permittee shall properly operate and maintain equipment to continuously monitor the NOx venturi scrubber water flow rate, the NOx packed column scrubber flow rate, the product packout venturi scrubber flow rate, the pressure drop across the inlet of the NOx venturi scrubber and the outlet of the NOx packed column scrubber, and the pH of the scrubber liquor for the NOx venturi scrubber, and the pressure drop across the product pack out venturi scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals. The permittee shall properly install within 6 months of the effective date of this permit the equipment for monitoring the flowrate and the pressure drop for the packout scrubber.

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

- a. the scrubber liquor flow rate for the NOx venturi scrubber, in gallons per minute, on a once per shift basis; and
 - b. the scrubber liquor flow rate for the NOx packed column scrubber, in gallons per minute, on a once per shift basis;
 - c. the scrubber liquor flow rate for the product packout venturi scrubber, in gallons per minute, on a once per shift basis;
 - d. the pH of the scrubber liquor for the NOx venturi scrubber , on a once per shift basis;
 - e. the pressure drop across the inlet of the NOx venturi scrubber and the outlet of the NOx packed column scrubber, in inches of water, on a once per shift basis;
 - f. the pressure drop across the product packout venturi scrubber, in inches of water, on a once per shift basis; and
 - g. a log of the downtime for the capture (collection) systems, control devices, and monitoring equipment when this emissions unit was in operation.
3. On days when the Secondary Backup Control option identified in A.I.2.c is utilized, the permittee shall monitor the concentration level of the organic compounds in the exhaust stream from the carbon adsorption system on a once per shift basis using a Draeger tube or other method approved by the Hamilton County Department of Environmental Services.
- The permittee shall collect and record the results of all measurements for organic compounds recorded on days when the Secondary Backup Control Plan is utilized. For any organic compound reading greater than 5 PPM, the permittee shall also note what corrective action was taken.
4. The permittee shall collect and record the following information on a monthly basis:
- a. the time and date a control option other than the primary control option defined in A.I.2.a. was utilized, and what control option was utilized;
 - b. the time and date the primary control option resumed; and

- c. the reason the primary control option had to be discontinued.
5. 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 scrubbers and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer did not comply with the temperature limitation specified above.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following NOx venturi scrubber and NOx packed column scrubber parameters were not maintained at or above the required levels:
 - a. the pressure drop across the inlet of the NOx venturi scrubber and the outlet of the NOx packed column scrubber;
 - b. the scrubber liquor flow rate for the NOx venturi scrubber;
 - c. the scrubber liquor flow rates for the NOx packed column scrubber; and
 - d. the scrubber liquor pH of the NOx venturi scrubber.
3. The permittee shall submit quarterly reports that summarize the information collected and recorded in A.III.4.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all times when carbon breakthrough was detected and the carbon was not changed.
5. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the Back-Up Secondary Control Plan was utilized and the OC concentration exiting the carbon absorption system was greater than 5 PPM. This report should also note any corrective actions taken.
6. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.
7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the scrubbers serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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V. Testing Requirements

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible PE from any stacks shall not exceed 20 percent opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitations above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. If required, the permittee shall demonstrate compliance with the emission limitations outlined in Sections A.I.2.a through A.I.2.c of this permit by the stack test results required in A.V.2. and the emission factors, control efficiencies (if applicable) and the operational parameters as submitted in PTI application 14-4456 submitted 9/22/97 and revised 1/9/98.
 - c. Emission Limitation:
Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitations above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the

procedures specified in OAC rule 3745-17-03(B)(3).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The NOx emission testing shall be conducted 2.5 years after the effective date of this permit, and within 6 months prior to permit expiration.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for NOx from the thermal oxidizer when the primary control option is being utilized. This emissions unit shall be included in the test of the thermal oxidizer which includes emission units P014, P022 and P008. The specific test requirements are specified in A.V.2 for emissions unit P014. The permittee also shall calculate and record the retention time for the thermal oxidizer as shown during the emission tests.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate:

for NOx, Method 7E of 40 CFR Part 60, Appendix A
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services' refusal to accept the results of the emission test(s). Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

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VI. **Miscellaneous Requirements**

1. None

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Facility ID: 1431390137 Emissions Unit ID: P901 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
tolyltriazole manufacturing with two venturi scrubbers, packed column scrubber, carbon adsorber, and thermal oxidizer	Air Toxics Policy	See B.III.1.

2. **Additional Terms and Conditions**

1. None

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II. Operational Restrictions

1. None

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III. Monitoring and/or Record Keeping Requirements

1. The permit to install for this emissions unit P901 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the Screen 3 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the Screen 3 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutants:

Pollutant: Toluene from NOx scrubber (vent A)
 TLV (ug/m3): 180,000
 Maximum Hourly Emission Rate (lbs/hr): 0.91
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 189.1
 MAGLC (ug/m3): 2685.7

Pollutant: Toluene from TO by-pass (vent X)
 TLV (ug/m3): 180,000
 Maximum Hourly Emission Rate (lbs/hr): 0.91
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 39.4
 MAGLC (ug/m3): 2685.7

Pollutant: Toluene from hot oil loops (vent B)
 TLV (ug/m3): 180,000
 Maximum Hourly Emission Rate (lbs/hr): 0.71
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 212.4
 MAGLC (ug/m3): 2685.7

Pollutant: Toluene from carbon adsorber (vent C)
 TLV (ug/m3): 180,000
 Maximum Hourly Emission Rate (lbs/hr): 0.053
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 15.9
 MAGLC (ug/m3): 2685.7

Pollutant: Toluene from N or W still (vent B)
 TLV (ug/m3): 180,000
 Maximum Hourly Emission Rate (lbs/hr): .0068
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2.14
 MAGLC (ug/m3): 2685.7

Physical changes to or in the method of operation of the emissions unit after it's installation or modification could affect the parameters used to determine whether or not the "Air Toxics 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 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 the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 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 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 it's evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where the 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.

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IV. **Reporting Requirements**

- 1. None

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V. **Testing Requirements**

- 1. None

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VI. **Miscellaneous Requirements**

- 1. None

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Facility ID: 1431390137 Emissions Unit ID: P902 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
sodium tolyltriazole manufacturing, equipped with a NOx venturi scrubber, NOx packed column scrubber, and thermal oxidizer(see A.VI.1 for clarification on the use of the thermal oxidizer)	OAC rule 3745-31-05(A)(3) (PTI 14-4534)	0.11 lb/day organic compounds(OC) 0.02 TPY OC
		10.0 lbs/day nitrogen oxides (NOx) 1.83 TPY NOx
		0.24 lb/day particulate emissions(PE)/PM10 0.045 TPY PE/PM10
		See A.I.2.c. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-07(B)(1) and OAC rule 3745-17-08(B).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) from the stacks associated with this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-07(B)(1)	Visible emissions of fugitive dust shall not exceed 20 percent opacity, as a three-minute average, except as specified by rule.
	OAC rule 3745-17-08(B)	See A.I.2.b.
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

OAC rule 3745-21-07(G)

The emission limitations specified by this rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

- a. The permittee shall operate and maintain a wet scrubber in a manner that will reduce the NOx emissions by a minimum of 75 percent, by weight.
- b. The permittee shall employ reasonably available control measures (RACM) at all times for the control of fugitive dust emissions associated with this emissions unit. The following control techniques shall be implemented to reduce fugitive dust emissions:
 - i. the installation and use of hoods, fans, and equipment to adequately enclose, contain, capture, vent and control the fugitive dust emissions;
 - ii. the ventilation and control equipment shall have a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design;
 - iii. all fugitive dust captured shall be vented to the scrubbers; and
 - iv. when loading solid materials into the reactors, fugitive emissions shall be minimized or eliminated to the extent possible by minimizing the drop height and pour rate into the reactor.

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II. Operational Restrictions

1. The emissions from T301 shall be vented to the NOx venturi scrubber and the NOx packed column scrubber, operated in series.
2. The pressure drop across the inlet of the NOx venturi scrubber and the outlet of the NOx packed column scrubber operated in series shall be continuously maintained at a value of not less than 1 inch of water at all times while the emissions unit is in operation.

The pressure drop across the scrubber may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative pressure drop ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
3. The NOx venturi scrubber liquor flow rate shall be continuously maintained at a value of not less than 30 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
4. The pH of the NOx venturi scrubber liquor shall be maintained at or above 6.

The pH may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative scrubber liquor pH ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.
5. The NOx packed column scrubber liquor flow rate shall be continuously maintained at a value of not less than 20 gallons per minute at all times while the emissions unit is in operation.

The scrubber liquor flow rate may be modified should the permittee provide additional information (e.g., testing, engineering studies, etc.) demonstrating that an alternative flow rate ensures ongoing compliance with the applicable mass emission limitation. Written notification of such a modification is required to be submitted to the Hamilton County Department of Environmental Services for approval prior to a change occurring.

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III. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate and maintain equipment to continuously monitor the NOx venturi scrubber water flow rate, the NOx packed column scrubber flow rate, the pressure drop across the inlet of the NOx venturi scrubber and the outlet of the NOx packed column scrubber, and the pH of the scrubber liquor for the NOx venturi scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information:

 - a. the pressure drop across the inlet of the NOx venturi scrubber and the outlet of the NOx packed column scrubber on a once per shift basis;

- b. the scrubber liquor flow rate for the NOx venturi scrubber, in gallons per minute, on a once per shift basis;
 - c. the scrubber liquor flow rate for the NOx packed column scrubber, in gallons per minute, on a once per shift basis;
 - d. the pH of the scrubber liquor for the NOx venturi scrubber, on a once per shift basis; and
 - e. a log of the downtime for the capture (collection) systems, control devices, 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 scrubbers and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.

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IV. Reporting Requirements

- 1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following NOx venturi scrubber and NOx packed column scrubber parameters were not maintained at or above the required levels:
 - a. the pressure drop across the inlet of the NOx venturi scrubber and the outlet of the NOx packed column scrubber;
 - b. the scrubber liquor flow rates for the NOx venturi scrubber;
 - c. the scrubber liquor flow rates for the NOx packed column scrubber; and
 - d. the scrubber liquor pH of the NOx venturi scrubber.
- 2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the scrubbers serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
- 3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.

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V. Testing Requirements

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

Visible PE from any stacks shall not exceed 20 percent opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitations above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitations:

0.11 lb/day of OC and 0.02 TPY OC
10.0 lbs/day of NOx and 1.83 TPY NOx
0.24 lb/day of PE/PM10 and 0.045 TPY PE/PM10

Applicable Compliance Methods:
If required, the permittee shall demonstrate compliance with the above emission limitations by the stack test results required in A.V.2. and the emission factors, control efficiencies (if applicable) and the operational parameters as submitted in PTI application 14-4534 submitted February 9, 1998.
 - c. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with the opacity limitations above through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months after the effective date of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the 10.0 lbs/day NOx emission limitation specified in A.I.1. of this permit. The stack test shall be conducted in such a manner as to measure the NOx emissions during the time frame of the batch cycle which NOx emissions are being generated from the process. The lbs of NOx/batch emissions determined during this stack test shall be multiplied by the maximum number of batches per day produced to demonstrate compliance with the lbs NOx/day emission limitation.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

For NOx, Method 7E of 40 CFR Part 60, Appendix A

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services' refusal to accept the results of the emission test(s). Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

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VI. **Miscellaneous Requirements**

1. The emissions from T301 are currently vented to a thermal oxidizer. However, the venting of emissions from T301 to a thermal oxidizer is not an applicable requirement. Therefore, the terms and conditions for emission unit P902 do not specify the requirement to vent T301 to a thermal oxidizer. This emission unit was installed under PTI 14-4534. The terms and conditions of this permit to install did not require the use of a thermal oxidizer. The emission limitations established in this permit to install did not take into account the control efficiency of the thermal oxidizer. Additionally, there are no state or federal regulations that require the use of a thermal oxidizer for this emissions unit.

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Facility ID: 1431390137 Emissions Unit ID: P902 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
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2. **Additional Terms and Conditions**

1. None

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II. Operational Restrictions

- 1. None

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III. Monitoring and/or Record Keeping Requirements

- 1. None

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IV. Reporting Requirements

- 1. None

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V. Testing Requirements

- 1. None

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VI. Miscellaneous Requirements

- 1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: P904 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
coal unloading	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average, except as specified by rule.
	OAC rule 3745-17-08(B)	Dumping shall be accomplished at a slow rate and in a partially enclosed area to minimize or eliminate the visible emissions of fugitive dust.
fly ash handling system with baghouse	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation established in OAC rule 3745-17-07(A) is less stringent than that established pursuant to OAC rule 3745-17-08(B).
	OAC rule 3745-17-07(B)(1)	Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average, except as specified by rule.
	OAC rule 3745-17-08(B)	No person shall cause or permit any fugitive dust source to be operated; or any materials to be handled,

transported, or stored; without taking or installing reasonably available control measures(RACM) to prevent fugitive dust from becoming airborne. Currently, the venting of the fugitive emissions from the fly ash handling system to a baghouse satisfies the RACM requirements.

There shall be no visible particulate emissions from the baghouse exhaust stack.

OAC rule 3745-17-11(B)

2.37 lbs of particulate emissions/hr from the exhaust gases of the baghouse (based on Table 1 of OAC rule 3745-17-11).

fly ash unloading with spray bars

OAC rule 3745-17-07(B)

Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average, except as specified by rule.

OAC rule 3745-17-08(B)

Spray bars (wet suppression) shall be utilized and water shall be applied at all times while fly ash dumping is occurring. The water application rate shall be sufficient to minimize or eliminate visible emissions of fugitive dust.

2. **Additional Terms and Conditions**

(a) None

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II. **Operational Restrictions**

1. The particulate emissions from the fly ash handling system shall be vented to the fly ash baghouse.
2. The pressure drop across the fly ash baghouse shall be maintained within the range of 3 to 6 inches of water while the emissions unit is in operation.
3. The spray bars (wet suppression) shall be utilized at all times when fly ash unloading is occurring.
4. Should the control measures specified in A.II fail to be of sufficient effectiveness to demonstrate compliance with the visible emission limitations specified in A.I.1, additional control measures shall be implemented.

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III. **Monitoring and/or Record Keeping Requirements**

1. The permittee shall properly install (within 3 months after the effective date of this permit), operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse 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.
3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the coal unloading and fly ash handling system serving this emissions unit. The presence or absence of any visible fugitive 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. whether the emissions are representative of normal operations;
 - b. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - c. the total duration of any visible emission incident; and
 - d. any corrective actions taken to eliminate the visible emissions.
4. The permittee shall maintained records indicating that the wet suppression system was in operation during fly ash unloading operations.

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IV. **Reporting Requirements**

1. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse serving this emissions unit, (b) identify all days during which any visible emissions of fugitive dust were observed from the coal unloading and fly ash handling system serving this emissions unit, and (c) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
3. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the spray bars (wet suppression system) were not utilized when fly ash unloading was occurring.
4. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.

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V. Testing Requirements

1. Compliance with the emission limitations specified in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).
 - b. Emission Limitation:
No visible particulate emissions from exhaust gases exiting the baghouse stack

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22 and the procedures specified in OAC rule 3745-17-03(B)(3).
 - c. Compliance with the particulate emission limitation established in OAC rule 3745-17-11 may be determined by use of the emission factor of 2.2 lbs PE/ton of fly ash* handled multiplied by the worse case throughput of 1 ton/hr multiplied by the baghouse control efficiency of 99%.

$$2.2 \text{ lbs PE/ton} \times 1 \text{ ton/hr} \times (1-.99) = .022 \text{ lbs PE/Hr}$$

*Emission factor taken from AP-42, Fifth Edition, Section 11, Table 11.17-4, Product Transfer and Conveying for Lime (similar to fly ash), updated 2/98.

If required, compliance with the PE limit shall be demonstrated by emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 5.

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VI. Miscellaneous Requirements

1. None

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Facility ID: 1431390137 Emissions Unit ID: P904 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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> |
|---|--------------------------------------|--|
|---|--------------------------------------|--|
2. **Additional Terms and Conditions**
1. None

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II. **Operational Restrictions**

1. None

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III. **Monitoring and/or Record Keeping Requirements**

1. None

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IV. **Reporting Requirements**

1. None

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V. **Testing Requirements**

1. None

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VI. **Miscellaneous Requirements**

1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: T001 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
16,500-gallon methanol storage tank	OAC rule 3745-31-05(A)(3) (PTI 14-1703)	1.56 TPY of organic compounds (OC)*

*The TPY emission limitation established in PTI 14-1703 was based on the emission unit's potential to emit. Therefore, no monitoring, record keeping or

40 CFR Part 60, Subpart Kb
OAC rule 3745-21-07(D)

reporting requirements are necessary to ensure ongoing compliance.
See A.III.1.
The permittee shall employ a submerged fill pipe when loading volatile photochemically reactive materials.

2. **Additional Terms and Conditions**

- (a) None

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II. **Operational Restrictions**

- 1. None

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III. **Monitoring and/or Record Keeping Requirements**

- 1. In accordance with 40 CFR 60.116b(a) and (b), the permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel.

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IV. **Reporting Requirements**

- 1. None

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V. **Testing Requirements**

- 1. Compliance with the OC emission limitation of 1.56 TPY may be demonstrated by the equations and methods specified in AP-42, Fifth Edition, Section 7.1(revised 1/95).

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VI. **Miscellaneous Requirements**

- 1. None

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Facility ID: 1431390137 Emissions Unit ID: T001 Issuance type: Title V Final Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
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2. **Additional Terms and Conditions**

- 1. None

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II. Operational Restrictions

- 1. None

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III. Monitoring and/or Record Keeping Requirements

- 1. None

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IV. Reporting Requirements

- 1. None

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V. Testing Requirements

- 1. None

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VI. Miscellaneous Requirements

- 1. None

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Part III - Terms and Conditions for Emissions Units

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Facility ID: 1431390137 Emissions Unit ID: T003 Issuance type: Title V Final Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
30,000-gallon phthalic anhydride storage tank with ambient air sublimate system	OAC rule 3745-31-05(A)(3) (PTI 14-1969) 40 CFR Part 60, Subpart Kb OAC rule 3745-21-07(D)	0.38 TPY of organic compounds (OC) See A.I.2. See A.III.1. and A.III.2. The permittee shall employ a submerged fill pipe when loading volatile photochemically reactive materials.

2. Additional Terms and Conditions

- a. The permittee shall operate and maintain a sublimate containment device in a manner that will reduce the OC emissions by a minimum of 90%, by weight.

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II. Operational Restrictions

1. The ambient air sublimate system shall be utilized at all times this emissions unit is in operation.

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III. Monitoring and/or Record Keeping Requirements

1. In accordance with 40 CFR 60.116b(a) and (b), the permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel.
2. In accordance with 40 CFR 60.116b(a) and (b), the permittee shall maintain a record of the volatile organic liquid stored, the period of storage, and the maximum true vapor pressure of that volatile organic liquid during the respective storage period.
3. The permittee shall maintain an operations log documenting the use of the ambient air sublimate system. Should the sublimate system not be utilized, the time, date, and the reason for its non-use shall be recorded.

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IV. Reporting Requirements

1. The permittee shall submit quarterly temperature deviation (excursion) reports that identify all times the ambient air sublimation system was not utilized.
2. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I-General Term and Condition A.1.c.

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V. Testing Requirements

1. Compliance with the OC emission limitation of 0.38 TPY may be demonstrated by the equations and methods specified in AP-42, Fifth Edition, Section 7.1(revised 1/95) multiplied by the overall control efficiency of 90%.*

*based on an estimated control efficiency supplied by the company in PTI application 14-1969saaasssss

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VI. Miscellaneous Requirements

1. None

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B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
2. Additional Terms and Conditions		
1. None		

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II. Operational Restrictions

1. None

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III. Monitoring and/or Record Keeping Requirements

1. None

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IV. Reporting Requirements

1. None

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V. Testing Requirements

1. None

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VI. Miscellaneous Requirements

1. None