Facility ID: 0819070134 Issuance type: Final State Permit To Operate

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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 II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0819070134 Emissions Unit ID: P014 Issuance type: Final State Permit To Operate

Go to the top of this document

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

   (a) None.

2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

   (a) None.

A. **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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P014 - Reactor Train G controlled by thermal oxidizer I	OAC rule 3745-31-05(A)(3) PTI 08-04244	The maximum volatile organic compound (VOC) emissions rate from emissions unit P014 shall not exceed 4.00 lbs per hour (lbs/hr). The requirements of this rule shall also include compliance with the requirements of OAC rule 3745-35-07(B). See Section A.2.a. and b.
	OAC rules 3745-21-07(G)(2) and 3745-21-07(G)(6)	The organic compound (OC) emissions from emissions unit P014 shall not exceed 8 pounds per hour (lbs/hr) and 40 pounds per day (lbs/day) or meet an 85% reduction in OC emissions. See Section A.2.a. and c.
	OAC rule 3745-35-07(B) (synthetic minor to avoid Title V and 40 CFR Part 63)	The volatile organic compound (VOC) combined emission rates from emissions units P001, P008, P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, P028, and P029 shall not exceed 42.76 tons per year, per rolling 12-month summations. The emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from this facility shall be less than 9.9 tons/year for any single HAP and 24.9 tons/year for any combination of HAPs, per rolling 12 month summations.
	OAC rule 3745-21-07(E)	No more than 40,000 gallons per day of any volatile photochemically reactive material, as a monthly average, can be loaded into any tank truck, trailer, or railroad tank car. See Section A.2.d.

2. **Additional Terms and Conditions**

   (a) The permittee shall control all of the VOC emissions from the process loading, heating, reaction, blending, process transfers, and vessel cleaning operations that are associated with this emissions unit by the use of a thermal oxidizer. The thermal oxidizer shall be operated such that it meets a minimum destruction efficiency of 98%, by weight, for VOC. [The resin I thermal oxidizer is a common VOC control device for emissions units P001, P008, P009, P010, P012, P013, P014, P015, P016, P021, P028, P029, P031, T001 and the specific tanks identified in emissions units T029.]
   The VOC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3) include all VOC emissions from the following operations that are associated with this emissions unit:

   i. process loading;

ii. initiator tank loading;
iii. heating;
iv. reaction;
v. blending;
vi. process transfers;
vii. filter changes;
viii. vessel cleaning; and,
ix. final product loading.
The OC emission limitation established pursuant to OAC 3745-21-07(G)(2) and (6) includes all OC emissions from the following operations associated with this emissions unit:

i. process loading;
ii. initiator tank loading;
iii. heating;
iv. reaction;
v. blending;
vi. process transfers;
vii. filter changes; and
viii. vessel cleaning.

Note: OAC rule 3745-21-07(G)(2) and (6) are not applicable to final product loading; therefore, final product loading is not included in the calculation to determine compliance with OAC rule 3745-21-07(G)(2) and (6).
The bulk load out limit established pursuant to OAC rule 3745-21-07(E) includes the load out into tanker truck and railcar loading only for combined reactor trains P001, P008, P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, and P028.
The 4.00 lbs/hr VOC limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.
Included in the allowable are 0.15 TPY VOC from the thermal oxidizer I fuel combustion.

B. **Operational Restrictions**

1. The maximum annual volatile organic compound input to emission units P001, P008, P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, P028, and P029 shall not exceed 42.76 tons per year as a rolling, 12-month summation, based upon the monthly volatile organic compound input figures from a combination of materials. The annual volatile organic compound input in this term is the summation of all raw material VOC components which equate to the annual VOC emission rate in term A.1 based upon the premise that less than 100% of all the VOCs contained in the raw material components are emitted. Therefore all the record keeping and reporting requirements of this permit for the VOC emissions will be sufficient to verify the annual organic compound input of this term.

   To ensure enforceability during the first twelve calendar months of operation following the issuance of this permit, the permittee shall not process raw materials in P001, P008, P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, P028, and P029 containing VOC components which results in an exceedance of the maximum allowable cumulative VOC emissions specified in the following table:

   Month Maximum Allowable Cumulative VOC Emissions (tons/month)

   1 7.13
   1-2 14.25
   1-3 21.38
   1-4 28.51
   1-5 35.64
   1-6 42.76
   1-7 42.76
   1-8 42.76
   1-9 42.76
   1-10 42.76
   1-11 42.76
   1-12 42.76

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

C. **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 and record the following information for each day for the control equipment:

   a. A log of the downtime* for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

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

   * The control device downtime is defined as any time when the emissions unit is in operation, employing organic compounds, and the thermal oxidizer is not in operation. Monitoring equipment downtime is defined as any time when the emissions unit is in operation, employing organic compounds, and the temperature monitoring

equipment is not functioning.

2. The permittee shall collect and record the following information each month for this emissions unit.

   a. The company identification of each material manufactured (recipe).

   b. The amount of each material manufactured, in gallons.

   c. The VOC emissions from each material manufactured, in pounds per gallon.

   d. The total VOC emission rate for all materials manufactured in the processes associated with this emissions unit.

   e. The total number of clean-up batches.

   f. The VOC emissions of each clean-up batch, in pound per batch.

   g. The total VOC emission rate for all clean-up batches.

   h. The total VOC emissions from this emissions unit, in tons [i.e, the sum of (d) and (g)].

3. The permittee shall maintain a monthly record for this emissions unit (excluding product loading subject to OAC rule 3745-21-07(E)) which includes:

   i. the total uncontrolled VOC emissions;
   ii. the total controlled VOC emissions; and,
   iii. the percent overall VOC emissions reductions achieved.

4. The permittee shall collect and record each month the rolling 12-month VOC emissions for emissions units P001, P008, P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, P028, and P029 combined, in tons (this is calculated by adding the rolling monthly VOC emission rates for emissions units P001, P008, P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, P028, and P029).

5. The permittee shall collect and record each month the following information for the entire facility:

   a. The company identification of each material manufactured (recipe) and/or materials processed.

   b. The amount of each material manufactured and/or processed, in gallons.

   c. The individual Hazardous Air Pollutant (HAP) emissions for each material manufactured and/or processed, in pounds of individual HAP per gallon.

   d. The total combined HAP emissions of each material manufactured and/or processed, in pounds of combined HAPs per gallon (the sum of all the individual HAP contents from Section A.3.c. above).

   e. The total number of clean-up batches.

   f. The individual HAP emissions for each HAP for each cleanup batch, in pounds of individual HAP per batch.

   g. The total combined HAP emissions for each cleanup batch, in pounds of combined HAPs per batch (the sum of all the individual HAP contents from Section A.3.f. above).

   h. The total individual HAP emission rate for all materials manufactured and/or processed and all cleanup batches, in tons.

   i. The total combined HAP emission rate for all materials manufactured and/or processed and all cleanup batches, in tons.

   j. The total individual HAP emission rate from all de minimis and/or exempt emission units, in tons.

   k. The total combined HAP emission rate from all de minimis and/or exempt emission units, in tons

   l. The rolling, 12- month total individual HAP emission rate for each HAP, in tons.

   m. The rolling, 12-month total combined HAPs emission rate for all the HAPs, in tons.

   *A listing of the HAPs can be found in Section 112 (b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local agency contact. This information does not have to be kept on a line-by-line basis.

6. The permittee shall collect and record, on a monthly basis, the daily average gallons of any volatile photochemically reactive material that is loaded into any tank truck or railroad tank car from P001, P008, P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, P028 and P029 combined.

D. **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, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent performance test that demonstrated the emissions unit was in compliance.

2. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

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

   a. An identification of each month during which the rolling, 12-month VOC emissions rate from P001, P008,

P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, P028, and P029 exceeded 42.76 tons, and the actual rolling, 12-month emissions rate for each such month.

b. An identification of each month during which the rolling, 12-month individual HAP emissions rate exceeded 9.9 tons, and the actual rolling, 12-month emissions rate for each individual HAP for each such month (for the entire facility).

c. An identification of each month during which the rolling, 12-month total combined HAP emissions rate exceeded 24.9 tons, and the actual rolling, 12-month total combined HAP emissions rate for each such month (for the entire facility).

4. These quarterly deviation (excursion) reports shall be submitted to the Director (Regional Air Pollution Control Agency) by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarter. If no deviation occurred during a calendar quarter, the permittee shall submit a report which states that no deviation occurred during the calendar quarter.

5. The permittee shall submit annual reports that specify the actual total VOC from this emissions unit and the individual and combined HAP emissions from the facility for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including the specific emission data from this facility in the Annual Fee Emission Report.

E. **Testing Requirements**

1. Compliance with the emission limitations in Section A.1 above shall be determined in accordance with the following methods:
Emission Limitation-
The maximum volatile organic compound (VOC) emissions rate from emissions unit P014 shall not exceed 4.00 lbs per hour (lbs/hr).

Applicable Compliance Method-
Multiply the maximum hourly production rate by the emission factor for the worst case resin manufactured and multiply by 98% control efficiency, then add in the uncontrolled emission rate from the initiator tank.
Emission Limitation-
The volatile organic compound (VOC) combined emission rates from emissions units P001, P008, P009, P010, P012, P013, P014, P015, P016, P022, P023, P024, P025, P028, and P029 shall not exceed 42.76 tons per year, per rolling 12-month summations..

Applicable Compliance Method-
Compliance with the annual allowable VOC emission limitation above shall be based upon the monthly record keeping requirement specified in section C.4 which uses the facility specific EMACT software or other software approved by RAPCA.
Emission Limitation-
9.9 tons for each individual HAP on a rolling, 12-month period

Applicable Compliance Method-
Compliance with the annual allowable individual HAP emission limitation above shall be based upon the record keeping requirements specified in Section C.5 above.
Emission Limitation-
24.9 tons for all HAPs combined on a rolling, 12-month period

Applicable Compliance Method-
Compliance with the annual allowable combined HAPs emission limitation above shall be based upon the record keeping requirements specified in Section C.5 above.
Emission Limitation-
98% destruction efficiency, by weight, for VOC for all emissions controlled by the thermal oxidizer I.

Applicable Compliance Method-
Compliance with the destruction efficiency requirement above shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or the approved alternative test protocol (e.g., the mass balance protocol approved on 10/25/95).
Emission Limitation-
Organic compound emissions shall not exceed 8 lbs/hr and 40 lbs/day or an 85% reduction in OC emissions.

Applicable Compliance Method-
Compliance with the OC emissions reduction limitation above shall be based upon the recordkeeping requirements specified in Section C.3. above.

Note: OAC rule 3745-21-07(G)(2) and (6) are not applicable to final product loading; therefore, final product loading is not included in the calculation to determine compliance with OAC rule 3745-21-07(g)(2) and (6).
Emission Limitation-
No more than 40,000 gallons per day of any volatile photochemically reactive material, as a monthly average, can be loaded into any tank truck, trailer, or railroad tank car.

Applicable Compliance Method-
Compliance with the bulk load out limitation above shall be based upon the recordkeeping requirements specified in C.6. above.

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 approximately 2.5 years after permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and the VOC destruction efficiency for the thermal oxidizer of 98%, by weight.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for VOC, Method 25A of 40 CFR Part 60, Appendix A. The test methods that must be employed to

demonstrate compliance with the control efficiency are specified below. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or an alternative test protocol approved by the Ohio EPA (e.g., the mass balance protocol approved on 10/25/95). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

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 appropriate Ohio EPA District Office or local air agency.
e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time (s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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

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

F. **Miscellaneous Requirements**

1. All of the terms and conditions in this permit are federally enforceable.