

Facility ID: 1431404130 Issuance type: Final State Permit To Operate

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 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: 1431404130 Emissions Unit ID: P003 Issuance type: Final State Permit To Operate

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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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P003-Kiln with thermal oxidizer	OAC rule 3745-31-05(A)(3) PTI 14-05345	Emissions from the kiln and kiln afterburner shall not exceed the following: Organic Compound (OC) emissions shall not exceed 3.93 lbs/hr. Particulate Emissions (PE) shall not exceed 0.20 lb/hr and 0.86 TPY. Particulate Emissions 10 microns and less in diameter (PM10) shall not exceed 0.15 lb/hr and 0.64 TPY. Nitrogen Oxide (NOx) emissions shall not exceed 0.28 lb/hr and 1.23 TPY. Sulfur Dioxide (SO2) emissions shall not exceed 0.34 lb/hr and 1.5 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.68 lb/hr and 3.0 TPY.
	OAC rule 3745-31-05(C) OAC rule 3745-17-07(A)(1) OAC rule 3745-17-11	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and 3745-31-05(C). Volatile Organic Compound (VOC) emissions from kiln and kiln afterburner shall not exceed 1.44 tons/month and 17.3 TPY. See term A.2.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).

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the Air Toxics Policy, emission limits and the use of a 95% efficient thermal oxidizer on the kiln. Visible particulate emissions from the stacks associated with this emissions unit shall not exceed twenty per cent opacity, as a six-minute average, except as specified by rule. The hourly emission limitations outlined in term A.1 are based upon the emissions unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits. This emissions unit shall be equipped with a control device for VOC emissions that is at least 95% efficient for VOC emissions entering the control device.

B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, 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 emissions test that demonstrated the emissions unit was in compliance.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator 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 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 incinerator, 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 the emissions unit was in compliance.
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall collect and record the following information each month for this emissions unit:
 - a. The emission unit's production rate in tons/month.
 - b. The total VOC emission rate, in tons per month [a x 156.5 lbs VOC/ton organic solvent* x (1-0.95) (or the control efficiency established during the most recent performance test) plus the emissions from the natural gas usage in the afterburner].
* the emission factor is based on information submitted by the permittee.
 3. The permit to install for this emissions unit (P003) 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 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

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

Pollutant: phenol
 TLV (ug/m3): 19,245
 Maximum Hourly Emission Rate (lbs/hr): 0.178
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 29.77
 MAGLC (ug/m3): 458.22

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 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.).
4. If the permittee determines that the "Air Toxic Policy" will be satisfied with the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is(are) defined as a modification under other provisions of the modification definition [other than (VV)(1)(a)(ii)], 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. When 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.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified in term B.1.
2. The permittee shall submit an annual report of the total VOC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

3. The permittee shall submit deviation (excursion) reports which identify any exceedance of the monthly VOC emissions limit in term A.1.
4. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the visible particulate emissions limitations in term A.2.b shall be demonstrated by the methods outlined in 40 CFR Part 60, Appendix A, Method 9.
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 prior to permit renewal.
 - b. The emission testing shall be conducted to demonstrate compliance with the destruction efficiency and VOC emission limitations.
 - c. The test method(s) which must be employed to demonstrate compliance with the destruction efficiency and VOC emission limitations are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

Method 25, 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.

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

Emissions Limitation:

Volatile Organic Compound (VOC) emissions shall not exceed 3.93 lbs/hr.

Applicable Compliance Method:

The VOC emissions are calculated by multiplying the hourly production rate in tons per hour times the emission factor (156.5 lb per ton) times the control efficiency plus the fuel usage for the kiln afterburner times the emission factor (11.0 lb/MMft³). The emission factor (156.5 lb/ton) was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 11.0 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Volatile Organic Compound (VOC) emissions from kiln and kiln afterburner shall not exceed 1.44 tons/month and 17.3 TPY.

Applicable Compliance Method:

The VOC emissions are calculated by multiplying the monthly/annual production rate in tons per year times the emissions factor (156.5 lb per ton) times the control efficiency and converting the emissions into tons plus the annual fuel usage times the emission factor (11.0 lb/MMft³). The emission factor (156.5 lb/ton) was provided in PTI 14-05345 submitted August 7, 2002. The emission factor 11.0 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Particulate Emissions (PE) shall not exceed 0.20 lb/hr.

Applicable Compliance Method:

The PM emissions are calculated by multiplying the hourly production rate for the kiln in tons per hour times the emission factor (0.37 lb per ton) plus the fuel usage for the kiln afterburner times the emission factor (7.6 lb/MMft³). The emissions factor was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 7.6 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Particulate Emissions (PE) shall not exceed 0.86 TPY.

Applicable Compliance Method:

The PM emissions are calculated by multiplying the annual production rate for the kiln in tons per year times the emissions factor (0.37 lb per ton) and converting the emissions into tons plus the annual fuel usage for the kiln afterburner times the emission factor (7.6 lb/MMft³) and converting into tons. The emission factor 0.37 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 7.6 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Particulate Emissions 10 microns and less in diameter (PM10) shall not exceed 0.15 lb/hr.

Applicable Compliance Method:

The PM10 emissions are calculated by multiplying the hourly production rate for the kiln in tons per hour times the emission factor (0.28 lb per ton) plus the fuel usage for the kiln afterburner times the emission factor (7.6 lb/MMft³). The emissions factor 0.28 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 7.6 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Particulate Emissions 10 microns and less in diameter (PM10) shall not exceed 0.64 TPY.

Applicable Compliance Method:

The PM10 emissions are calculated by multiplying the annual production rate for the kiln in tons per year times the emissions factor (0.28 lb per ton) and converting the emissions into tons plus the annual fuel usage for the kiln afterburner times the emission factor (7.6 lb/MMft³) and converting into tons. The emission factor 0.28 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 7.6 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Nitrogen Oxide (NOx) emissions shall not exceed 0.28 lb/hr.

Applicable Compliance Method:

The NOx emissions are calculated by multiplying the hourly production rate for the kiln in tons per hour times the emission factor (0.35 lb per ton) plus the fuel usage for the kiln afterburner times the emission factor (100.0 lb/MMft³). The emissions factor 0.35 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 100.0 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Nitrogen Oxide (NOx) emissions shall not exceed 1.23 TPY.

Applicable Compliance Method:

The NOx emissions are calculated by multiplying the annual production rate for the kiln in tons per year times the emissions factor (0.35 lb per ton) and converting the emissions into tons plus the annual fuel usage for the kiln afterburner times the emission factor (100.0 lb/MMft³) and converting into tons. The emission factor 0.35 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 100.0 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Sulfur Dioxide (SO₂) emissions shall not exceed 0.34 lb/hr.

Applicable Compliance Method:

The SO₂ emissions are calculated by multiplying the hourly production rate for the kiln in tons per hour times the emission factor (0.67 lb per ton) plus the fuel usage for the kiln afterburner times the emission factor (0.60 lb/MMft³). The emissions factor 0.67 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 0.60 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Sulfur Dioxide (SO₂) emissions shall not exceed 1.5 TPY.

Applicable Compliance Method:

The SO₂ emissions are calculated by multiplying the annual production rate for the kiln in tons per year times the emissions factor (0.67 lb per ton) and converting the emissions into tons plus the annual fuel usage for the kiln afterburner times the emission factor (0.60 lb/MMft³) and converting into tons. The emission factor 0.67 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 0.60 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Carbon Monoxide (CO) emissions shall not exceed 0.68 lb/hr.

Applicable Compliance Method:

The CO emissions are calculated by multiplying the hourly production rate for the kiln in tons per hour times the emission factor (1.20 lb per ton) plus the fuel usage for the kiln afterburner times the emission factor (84.0 lb/MMft³). The emissions factor 1.20 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 84.0 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

Emissions Limitation:

Carbon Monoxide (CO) emissions shall not exceed 0.68 lb/hr.

Applicable Compliance Method:

The CO emissions are calculated by multiplying the annual production rate for the kiln in tons per year times the emissions factor (01.20 lb per ton) and converting the emissions into tons plus the annual fuel usage for the kiln afterburner times the emission factor (84.0 lb/MMft³) and converting into tons. The emission factor 1.20 lb/ton was provided in PTI application 14-05345 submitted August 7, 2002. The emissions factor 84.0 lb/MMft³ was taken from AP-42, Fifth Edition, Chapter 1.4, Natural Gas Combustion.

F. Miscellaneous Requirements

1. The following terms and conditions of this permit are federally enforceable: A., B., C.1 - C.2, D. and E.