

Facility ID: 1483090295 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: 1483090295 Emissions Unit ID: K010 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
K010-Toshiba Chemical #3 armature varnish line (drip application) and bake oven controlled with a catalytic oxidizer	OAC rule 3745-31-05(A)(3) (PTI 14-04764)	<p>Volatile Organic Compound (VOC) emissions from coatings shall not exceed 0.4 lb/hr.</p> <p>Volatile Organic Compound (VOC) emissions from coatings and cleanup materials shall not exceed 2.3 TPY.</p> <p>See terms A.2.c and A.2.d.</p>
	OAC rule 3745-21-09(B)(6)	See term A.2.b.
	OAC rule 3745-31-05(C)	See term A.2.f.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a catalytic oxidizer and compliance with the VOC content limits.

When applying coatings, the permittee shall operate a catalytic oxidizer with an overall control efficiency which is at least 81% by weight and a destruction efficiency which is at least 90% by weight. The VOC content of the cleanup material employed in this emissions unit shall not exceed 6.8 pounds of VOC per gallon.

The VOC content as applied for the varnish employed in this emissions unit shall not exceed 2.6 pounds of VOC per gallon.

The hourly emission limitation outlined above is based upon the emissions unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with this limit.

The total usage of hazardous air pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units K001, K002, K005, K006, K007, K008, K009, K010 and P001-P010 and any de minimis emissions units as defined in OAC rule 3745-15-05, any registration status and/or permit exempt emissions units shall not exceed 9.9 TPY* for any single HAP, as a rolling, 12-month summation, and 24.9 TPY* for any combination of HAPs, as a rolling, 12-month summation.

* This assumes the amount of HAPs used is equivalent to the amount of HAPs that will evaporate and be emitted.

B. Operational Restrictions

1. The maximum annual cleanup material usage for this emissions unit shall not exceed 150 gallons.
2. The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
3. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation at maximum capacity, shall not be less than 80 percent of the average temperature difference 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 collect and record the following information each month for this emissions unit:
 - a. the company identification for each coating(varnish) and cleanup material employed;

- b. the number of gallons of each coating and cleanup material employed;
 - c. the VOC content of each coating and cleanup material, in pounds per gallon, as applied; and
 - d. the total controlled organic compound emission rate for all coatings and cleanup materials, in tons (i.e., calculated using the overall control efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance).
2. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

- a. all 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance;
 - b. all 3-hour blocks of time (when the emissions unit is operating at maximum capacity) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emissions test that demonstrated the emissions unit was in compliance; and
 - c. 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 permit to install for this emissions unit K010 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: Styrene

TLV (ug/m3): 85,202

Maximum Hourly Emission Rate (lbs/hr): 0.4

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 160.3

MAGLC (ug/m3): 2029

Physical changes to or in the method of operation of the emissions unit after its 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 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 its 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.
4. The permittee shall collect and record the following information each month for the emission units identified in term A.2.f:

- a. the name and identification number of each coating, employed;
- b. the individual Hazardous Air Pollutant (HAP) content for each HAP of each coating in pounds of individual HAP per gallon of coating, as applied;
- c. the total combined HAP content of each coating in pounds of combined HAPs per gallon of coating, as applied [sum all the individual HAP contents from (b)];
- d. the number of gallons of each coating employed;
- e. the name and identification of each cleanup material employed;
- f. the individual HAP content for each HAP of each cleanup material, in pounds of individual HAP per gallon of cleanup material, as applied;
- g. the total combined HAP content of each cleanup material, in pounds of combined HAPs per gallon of cleanup material, as applied [sum all the individual HAP contents from (f)];
- h. the number of gallons of each cleanup material employed;
- i. the total individual HAP usage for each HAP from all coatings and cleanup materials employed, in pounds or tons per month [for each HAP the sum of (b) times (d) for each coating plus the sum of (f) times (h) for each cleanup material];
- j. the total combined HAP usage from all coatings and cleanup materials employed, in pounds or tons per month [the sum of (c) times (d) for each coating plus the sum of (g) times (h) for each cleanup material];
- k. the updated rolling, 12-month summation of usage for each individual HAP emissions**, in tons. This shall include the information for the current month and the preceding eleven calendar months {for each HAP, the sum of [(b) times (d) plus the sum of (f) times (h)] x [1- overall control efficiency]}. For calculating styrene emissions from coatings containing styrene, use an emission factor of 0.52 lb styrene emitted/lb styrene input in the above calculation.
- l. the updated rolling, 12-month summation of usage for total combined HAP emissions**, in tons [the summation of each individual HAP emission from (k) above]. This shall include the information for the current month and the preceding eleven calendar months.

* A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Hamilton County Department of Environmental Services contact. This information does not have to be kept on a individual emissions unit basis.

** Assume that styrene is emitted at 52% of the total amount of styrene used (Composite Fabricators Association, 1997) .

Assume that all HAP(s), other than styrene, are emitted at rates the same as the amount of HAP(s) used.

D. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any monthly record showing the use of noncomplying coatings (varnishes) or cleanup materials. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 30 days following the end of the calendar month in which the noncomplying coatings were used.
2. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. All 3-hour blocks of time when the emissions unit was in operation during which the average temperature of the exhaust gases immediately before the catalyst bed does not comply with the temperature limitations in term B.2; and
 - b. All 3-hour blocks of time when the emissions unit was in operation at maximum capacity during which the average temperature difference across the catalyst bed does not comply with the temperature limitations in term B.3.

The permittee shall submit the reports to the Hamilton County Department of Environmental Services. If no deviations occurred during the reporting period then the permittee shall state so in the report. The deviation reports shall be submitted in accordance with the quarterly reporting requirements in the General Terms and Conditions of this permit (i.e. January 31, April 30, July 31, and October 31 of each year for the previous calendar quarter; October through December, January through March, April through June, and July through September, respectively).
3. The permittee shall submit annual reports which identify any exceedances of the annual cleanup material usage limitation in term B.1, as well as the corrective actions that were taken to achieve compliance. If no exceedances occurred during the reporting period, the permittee shall state so in the report. The permittee shall submit the reports to the Hamilton County Department of Environmental Services. These reports shall be submitted by January 31 of each year.
4. The permittee shall submit deviation reports which identify any exceedance of the HAP emission limitations set forth in term A.2.f. If no exceedances occurred, the permittee shall state so in the report.
5. Unless otherwise noted in the above terms, 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. Emissions Limitations and Control Requirements
 - 0.4 lb/hr VOC
 - 81% overall control of the VOCs from the capture and control system

90% control of the VOCs from the control device

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emissions testing shall be conducted 6 months after issuance of this permit;
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emissions rate for VOCs and to demonstrate compliance with the overall control efficiency limitation of the capture and control system for VOCs and the control efficiency limitation of the catalytic oxidizer for VOCs;
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for VOCs, Method 25 of 40 CFR Part 60, Appendix A. The test methods which must be employed to demonstrate compliance with the overall control efficiency limitation for VOCs and the control efficiency limitation for the catalytic oxidizer are specified below. 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;
- e. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.) 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 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"; and
- f. 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 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.
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. Emissions Limitation:

Volatile Organic Compound (VOC) emissions from coatings and cleanup materials shall not exceed 2.3 TPY.

Applicable Compliance Method:

Compliance with the annual VOC emissions limitation shall be demonstrated by calculating the actual annual VOC emissions from the records obtained in term C.1 and using the overall control efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance:

$$\text{actual usage (gal/year)} \times \text{VOC content (lbs VOC/gallon)} \times [1 - (\text{actual overall control efficiency \%}/100)] \times \text{ton}/2000 \text{ lbs} = \text{TPY VOC}$$

3. USEPA methods 24 and 24A shall be used to determine the VOC content for (a) coatings and (b) flexographic and rotogravure printing lines and related coatings, respectively. If, pursuant to 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 or 24A cannot be used for a particular coating or ink, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for that coating or ink to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24 or 24A. In lieu of Method 24, the permittee can use Method D6053-96 for any electrical insulating varnishes.
4. Compliance with the usage limitations in term B.1 shall be demonstrated by the record keeping in term C.1.
5. Compliance with the temperature restriction in terms B.2 and B.3 shall be demonstrated by the record keeping in term C.2.
6. Compliance with the HAP emission limitations in term A.2.f shall be demonstrated by the recordkeeping requirements in section C.4.

F. **Miscellaneous Requirements**

1. None