

Facility ID: 1409040657 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: 1409040657 Emissions Unit ID: P004 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>
P004 - Solvent Blend Tank No. 1	OAC rule 3745-31-05(A)(3) (PTI 14-05307)	Organic compound (OC) emissions shall not exceed 24.5 pounds per hour.

See term and condition A.2.a.

2. Additional Terms and Conditions

- (a) Organic Compound (OC) emissions shall not exceed 1.96 tons per year (TPY) from emissions units P004 and P005 combined.
The hourly emissions limitation outlined above is based upon the emission unit's potential to emit (PTE). Therefore, no hourly records are required to demonstrate compliance with this limit. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the emissions limitations and the use of submerged fill (bottom fill method) for the blending operations.

B. Operational Restrictions

1. The maximum annual throughput of solvents blended in emissions units P004 and P005, combined, shall not exceed 960,000 gallons per year.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each month for emissions units P004 and P005 combined:
 - a. The company identification of each solvent (organic compound) employed/blended;
 - b. The number of gallons of each solvent (organic compound) employed/blended;
 - c. The organic compound content of each solvent (organic compound), in pounds per gallon;
 - d. The number of gallons of all solvents (organic compound) employed/blended in emissions units P004 and P005 combined;
 - e. The molecular weight of the organic compound, in lb-lb mole;
 - f. The gas-phase mass transfer coefficient (Kx) for each organic compound, x, employed in the blend, in ft/sec;
 - g. The liquid mass fraction (zx) for each organic compound, x, employed in the blend, in lb/lb;
 - h. The liquid mole fraction (mx) for each organic compound employed in the blend, in mole/mole;
 - i. The vapor pressure (Vpx), in psia, and the vapor mole fraction (Yx), in psia, for each organic compound employed in the blend;
 - j. The partial pressure of each organic compound, x, (Px), in psia, at temperature, in degrees Rankin and the total pressure for the blend (P), in psia;
 - k. The vapor molecular weight (M), for all compounds employed in the blend, in lb/lb-mole;
 - l. The mean ambient temperature, in degrees Rankin;

m. The area of the blend tank, in square feet; and

n. The total organic compound emission rate for all organic compounds, in pounds per month.

The calculation methods for the variables (Kx), (zx), (mx), (Yx), (Px), (P), and (M) outlined above are contained in the Testing Requirements, Section E.1 of this permit.

2. The permit to install for this emissions unit (P004) 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 : Toluene
 TLV (ug/m3): 188,400
 Maximum Hourly Emission Rate (lbs/hr): 3.39
 Predicted 1-Hour Maximum Ground-Level
 Concentration (ug/m3): 2669
 MAGLC (ug/m3): 4485

Pollutant : rubber solvent
 TLV (ug/m3): 1,586,000
 Maximum Hourly Emission Rate (lbs/hr): 24.5
 Predicted 1-Hour Maximum Ground-Level
 Concentration (ug/m3): 19,245
 MAGLC (ug/m3): 37,761

3. 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:
- 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;
 - 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
 - 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 description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- 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 annual reports which specify the total throughput, in gallons, of solvents blended in emissions units P004 and P005 combined for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in Sections A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:
 Emissions Limitation:

Organic compound (OC) emissions shall not exceed 24.5 pounds per hour.

Applicable Compliance Method:

The hourly OC emissions rate is based upon the emissions unit's potential to emit (PTE). The potential to emit was calculated using the the maximum total evaporative loss rate determined by the equations found in the US EPA Emissions Inventory Improvement Program (EIIP) Volume II, Chapter 8, Paint and Ink Manufacturing, published 2/2005, for loading loss and mixing loss and the emissions unit's maximum batch throughput of 6000

gallons per hour.

Emissions Limitations:

Organic Compound (OC) emissions shall not exceed 1.96 tons per year (TPY) from emissions units P004 and P005 combined.

Applicable Compliance Method:

To calculate OC emissions from emissions units P004 and P005, the permittee shall use the solvent throughput records required pursuant to Section C.1 and the Emissions Model for Surface Evaporation, Equation 8.4-22, and Emissions Model for Material Loading, Equation 8.4-1, from the US EPA Emissions Inventory Improvement Program (EIIP) Volume II, Chapter 8, Paint and Ink Manufacturing, published 2/2005.

Total OC Emissions = mixing losses (Eq. 8.4-22) + loading losses (Eq. 8.4-1)

The equations listed above utilize the following variables, as specified in the US EPA EIIP emissions model, which are calculated as follows:

$K_x = 0.00438 * U^{0.78} * [(18/M_x)^{1/3}]$, where $U = 0.1$ mph and M_x is the molecular weight of the organic compound.

$m_x = (z_x/M_x \text{ for one organic compound in the blend}) / (\text{sum of } z_x/M_x \text{ for all organic compounds in the blend})$, where z_x is the fraction of the blend for organic compound, x , in lb/lb, and M_x is the molecular weight of organic compound, x .

$Y_x = \text{vapor mole fraction} = P_x/P = \text{the partial pressure for organic compound } x \text{ divided by the vapor pressure of all compounds in the blend. } P = \text{the sum of } P_x \text{ for all compounds in the blend.}$

$M = \text{vapor molecular weight, in lb/lb-mole,} = \text{the sum of } Y_x * M_x \text{ for all species in the blend.}$

Should further updates to the above-referenced EIIP emissions model occur or more accurate emission factors be developed during the current permit cycle, the permittee shall use the most current information provided the new emissions factors are mutually agreeable to the Ohio EPA, Hamilton County Department of Environmental Services, and the permittee.

F. **Miscellaneous Requirements**

None