

Facility ID: 0511010139 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: 0511010139 Emissions Unit ID: P801 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>
(P801) - 5,000,000 gallon per year Bio-Diesel Production-Fugitive Emissions from Liquid Storage and Process Equipment Leaks	OAC rule 3745-31-05(C)	The fugitive organic compound (OC) emissions from this emissions unit shall not exceed 6.44 tons per rolling 12-month period.
	40 CFR Part 60, Subpart VV	See Section A.2.a and A.2.b
	OAC rule 3745-21-09(DD)	See Section A.2.a and A.2.c
	OAC rule 3745-21-07(D)(2)	All storage tanks for volatile photochemically reactive material shall be equipped with submerged fill pipe.
	OAC rule 3745-17-10(B)(1)	The particulate emissions from the use of fuel oil or bio-diesel shall not exceed 0.040 pound per million Btu of actual heat input
	OAC rule 3745-17-07(A)(1)(b)	Visible particulate emissions from the exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-114-01	Ohio Toxic Policy

**2. Additional Terms and Conditions**

- (a) The permittee shall implement a volatile organic compound (VOC) leak detection and repair program in accordance with 40 CFR Part 60.480 through 60.489 and OAC rule 3745-21-09(DD) within 60 days after achieving maximum production and not more than 180 days after initial start up. Any equipment in vacuum service is excluded from compliance with the leak detection and repair requirements of 40 CFR Part 60.482-2 through 60.482-10 if it is identified as required in 40 CFR Part 60.486(e)(5). Any equipment in vacuum service is excluded from compliance with the requirements of OAC rule 3745-21-09(DD)(2) to (DD)(6) according to OAC rule 3745-21-09(DD)(17)(b)(ii). The permittee shall employ best available control measures for the emissions for the purpose of ensuring compliance with the above mentioned applicable requirements. The permittee has committed to implementing a Leak Detection and Repair (LDAR) program to ensure compliance.

The permittee shall include the appropriate process equipment and regulated components in the LDAR program. The LDAR program shall comply with the appropriate provisions (including operational restrictions, monitoring and record keeping reporting and testing) of OAC rule 3745-21-09(DD) (Leaks from Process Units that Produce Synthetic Organic Chemicals) and 40 CFR Part 60, Subpart VV (Standards for Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry). In the case of overlapping provisions, the permittee shall comply with the more stringent requirement.

The annual allowable emission rate is based on the maximum design capacity of the process at the annual production rate of 6,000,000 gallons of bio diesel. Since the annual emission rate is based on the maximum design capacity of the process, no operational restrictions, monitoring or record keeping requirements are necessary to ensure that this emissions unit does not exceed its annual allowable emission rate.

**B. Operational Restrictions**

1. The methyl alcohol storage tanks shall be equipped with a submerged fill pipe.

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

1. The permittee shall implement a leak detection and repair plan and keep records in accordance with the requirements of 40 CFR Part 60.482 and 60.486.
2. The permittee shall implement a leak detection and repair plan and keep records in accordance with the requirements of OAC rules 3745-21-09(DD)(2) to (DD)(6) and 21-09(DD)(14).
3. The permit to install for this emissions unit (P801) was evaluated based on the actual materials (typically coatings) 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 ISCST3 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC) calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A". The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methyl Alcohol  
 TLV (mg/m3): 262.1  
 Maximum Hourly Emission Rate (lbs/hr): 1.47  
 Predicted 1-Hour Maximum Ground-Level Concentration (mg/m3): 0.22  
 MAGLC (mg/m3): 62.4

Physical changes to or changes 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 Toxic 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 applying 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.).
4. 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.
  5. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still 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. Where 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 semiannual reports in accordance with the requirements of 40 CFR Part 60.487.
2. The permittee shall submit semiannual reports in accordance with the requirements of OAC rule 3745-21-09(DD) (2)(mm) and OAC 3745-21-09(DD)(15).

**E. Testing Requirements**

1. Compliance with the emissions limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:  
 Emission Limitation:  
 The fugitive OC emissions from this emissions unit shall not exceed 6.44 tons per year.

Applicable Compliance Method:  
 Compliance with annual fugitive OC emissions limitation shall be based upon the following equation:

$$\text{AER} = \text{LER} + \text{Pc} + \text{Sr}$$

where:

AER = Annual Emission Rate, in tons/yr;  
 LER = Leak Emission Rate, in tons/yr\*;  
 Pc = Products of combustion, in tons/yr\*\*; and  
 Sr = Solvent reclamation, in tons/yr\*\*\*\*.

\* Leak Emission Rate is based on the following equation:

$$\text{LER} = [\text{Sum of } (E_f \times W_f \text{ to c } \times N)] \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lbs}$$

where:

Ef = Emission factor from "EPA Protocol for Equipment Estimates"(EPA 453/R-95-017), Table 2-1, in lbs/hr/source, (0.009 for valves, 0.044 for pump seals, 0.044 for agitator seals, 0.004 connectors, 0.004 open-ended lines, and 0.033 sampling connections);  
 WF toC = Average fraction of total organic in stream, (8.85% by weight, from Emission Activity Sheet); and  
 N = Number of each specific type of equipment, (46 valves, 6 pump seals, 3 agitator seals, 19 connectors, 2 open-ended lines, and 6 sampling connectors).

\*\* Products of combustion is based on the following equation:

$$Pc = [(Ef \times 0.004 \text{ 1000gals/hr}) \times 8760 \text{ hrs/yr} \times 1 \text{ ton/2000 lbs}] \times 2 \text{ boilers}$$

where:

Ef = Emission factor, lbs/ 1000gals, (0.556, diesel fuel employed).

\*\*\* Solvent Reclamation:

$$Sr = [\text{Sum of } (Ef \times Mp)] \times 8760 \text{ hr/yr} \times 1 \text{ ton/2000 lbs}$$

where:

Ef = Emission factor from AP-42 Table 4.7-1, in lbs/ton processed, (0.02 tanks, 3.3 condenser vent, 0.2 spillage, and 0.72 loading); and

Mp = Amount of methanol processed, in tons/hr, (0.323 tons/hr, from Emission Activity Sheet).

Emission Limitation:

The particulate emissions from the use of fuel oil or bio-diesel in this emissions unit shall not exceed 0.040 lbs/MMBTU heat input.

Applicable Compliance Method:

Compliance with the above emission limitation shall be based upon the following equation:

$$PER = (Ef \times Fo) / Hi$$

where:

PER = Particulate Emission Rate, in lbs/MMBTU;

Ef = Emission Factor, in lbs/1000 gals, ( 2 lbs/1000 gals, AP-42 Table 1.3-3);

Fo = Fuel oil usage, 1000 gals/hr, (0.0044, calculation sheet); and

Hi = Heat input, MMBTU/hr, (0.62 MMBTU/hr, PTI Application and cover sheet).

Emission Limitation:

20% Opacity, as a six minute average, from the stack.

Applicable Compliance Method:

Compliance shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in OAC rule 3745-17-03.

2. In accordance with the requirements of 40 CFR Part 60.482 and OAC rule 3745-21-09(DD)(2) to (DD)(6) 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit to demonstrate compliance with the leak detection and repair requirements of 40 CFR Part 60, Subpart VV and OAC rule 3745-21-09(DD).
  - b. U.S. EPA Reference Method 21 of 40 CFR Part 60 Appendix A shall be employed to demonstrate compliance.
  - c. The permittee shall semiannual reports in accordance with the requirements of 40 CFR Part 60.487 and OAC rule 3745-21-09(DD)(2)(m).

**F. Miscellaneous Requirements**

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