

Facility ID: 1431074118 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: 1431074118 Emissions Unit ID: P004 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>
P004-Oleochemical Process	OAC rule 3745-35-07(B)(1) Synthetic Minor to Avoid Title V Permit Requirements (PTI 14-05851) OAC rule 3745-31-05(A)(3)	See term A.2.b. Organic Compound (OC) emissions shall not exceed 1.35 pounds per hour* and 5.91 tons per year including emissions from natural gas combustion. See term A.2.a. See sections B.1 and B.2. * The hourly emission limitation is based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with this limitation.
	OAC rule 3745-21-07(G)	Exempt, See term A.2.d.

2. Additional Terms and Conditions

- (a) All the organic compound emissions from this emissions unit shall be vented to a packed bed scrubber at all times followed by a thermal oxidizer under certain operating scenarios as listed in section B.2. The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P004 (Oleochemical Process), J001 (Methanol Loadout), fat traps, fugitive leaks, all miscellaneous tanks, sumps and small air contaminant sources that may be de minimis emissions units as defined in OAC rule 3745-15-05, any registration status and/or permit exempt emissions units, or future constructed emissions units, shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a packed bed scrubber, thermal oxidizer, compliance with the emission limitations and compliance with the facility-wide HAP emissions limitations. This emissions unit currently does not employ any photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5). It is, therefore, exempt from all emission limitations and control requirements contained in OAC rule 3745-21-07(G).

B. Operational Restrictions

1. All organic compound emissions from this emissions unit shall be vented to only a packed bed scrubber during the following plant operating scenarios:
 - a. esters production without liquid oleo production;
 - b. esters production with hourly average liquid oleo production less than 30,000 lbs/hour; and
 - c. hourly average liquid oleo production less than 30,000 lbs/hr without esters production.
2. All organic compound emissions from this emissions unit shall be vented to a thermal oxidizer following the packed bed scrubber during the following plant operating scenarios:

- a. esters production with hourly average liquid clean production greater than 30,000 lbs/hr; and
 - b. hourly average liquid clean production, alone, greater than 30,000 lbs/hr.
- C. **Monitoring and/or Record Keeping Requirements**
1. The permittee shall properly operate, and maintain equipment to continuously monitor and record the static pressure drop across the scrubber and the scrubber water flow rate during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the static pressure drop across the scrubber and the scrubber water flow rate on a daily basis.

Whenever the monitored value for the static pressure drop across the scrubber and the scrubber water flow rate deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations. In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the static pressure drop across the scrubber and the scrubber water flow rate readings immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The acceptable static pressure drop across the packed bed scrubber is at least 0.5 inches of water but not greater than 2 inches of water. The acceptable scrubber water flow rate is at least 8 gallons per minute or greater.

These ranges are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the ranges based upon information obtained during future organic compound emission tests that demonstrate compliance with the allowable organic compound emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.
 2. The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the combustion temperature within the thermal incinerator during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the combustion temperature within the thermal incinerator on continuous basis.

Whenever the monitored value for the combustion temperature within the thermal incinerator deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations. In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the combustion temperature within the thermal incinerator immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The acceptable range for 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 performance test that demonstrated the emissions unit was in compliance.

The range is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the range based upon information obtained during future organic compound emission tests that demonstrate compliance with the allowable organic compound emission rate for this emissions unit. In addition, approved revisions to the range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.
 3. The permittee shall collect and record the following information each month for the emissions units identified in term and condition A.2.b:
 - a. the company identification of each organic material containing a HAP(s) employed in this emissions unit;
 - b. the number of pounds of organic material employed;
 - c. the individual Hazardous Air Pollutant (HAP) content for each HAP for each material employed in pounds of individual HAP per pound of material;
 - d. the total combined HAP content of each material employed in pounds of combined HAPs per pound of material;
 - e. the total individual HAP emissions for each HAP from all materials employed in pounds or tons per month. This

calculation shall be based on the emissions calculation methodology submitted in permit-to-install application number 14-05851 submitted on June 1, 2006;

- f. the total combined HAP emissions from all materials employed in pounds or tons per month. This calculation shall be based on the emissions calculation methodology submitted in permit to install application number 14-05851 submitted on June 1, 2006;
- g. the updated rolling, 12-month summation for individual HAP emissions for each HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months; and
- h. the updated rolling, 12-month summation for total combined HAP emissions, in pounds or tons. 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 the Hamilton County Department of Environmental Services. This information does not have to be kept on a individual emissions unit basis.

4. The permittee shall collect and record the following information each day:
 - a. the operating scenario and control device being utilized;
 - b. the average hourly liquid olean production rate;
 - c. the time and date the thermal oxidizer was brought online; and
 - d. the time and date the thermal oxidizer was taken offline.
5. The permittee shall collect and record the following information each month:
 - a. the company identification of each liquid organic material employed in this emissions unit; and
 - b. a record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is photochemically reactive as identified in OAC rule 3745-21-01(C)(5).
6. The permit to install for this emissions unit P004 was evaluated based on the actual 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN3 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN3 (or other appr

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

Pollutant: methanol (CAS 67-56-1)

TLV (ug/m3):262

Maximum Hourly Emission Rate (lbs/hr): 1.24 lbs methanol/hr

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1813

MAGLC (ug/m3): 6240

The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(d), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. 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 or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
- 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.).

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:
 - a. each period of time when the static pressure drop across the scrubber and the scrubber water flow rate were outside of the acceptable range;
 - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the static pressure drop across the scrubber and the scrubber water flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and

- d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

- 2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:
 - a. each period of time when the combustion temperature within the thermal incinerator was outside of the acceptable range;
 - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the combustion temperature within the thermal incinerator into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.
- 3. Prior to employing any photochemically reactive material in this emissions unit, the permittee shall provide written notification to the appropriate Ohio EPA field office. Such notification shall include information sufficient to determine compliance with the emission limits and/or control requirements specified in OAC rule 3745-21-07 (G). This notification, at a minimum, shall include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour, and pounds per day.
- 4. The permittee shall submit quarterly reports that indicate any time the average hourly liquid olefin production was above 30,000 lbs/hour and the thermal oxidizer was not brought on line. This notification shall include the date and time of the occurrence along with the total time the process ran above 30,000 lbs/hour without the thermal oxidizer. These quarterly reports shall be submitted by April 30, July 31, October 31, and January 31, and shall cover the records for the previous calendar quarters.
- 5. Deviation reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.

E. Testing Requirements

- 1. Compliance with the emission limitations in section A of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitations:
Organic Compound (OC) emissions shall not exceed 1.35 pounds per hour* and 5.91 tons per year including emissions from natural gas combustion.

Applicable Compliance Methods:
Compliance with the lbs of OC/hr emission limitation was demonstrated through mass emission testing conducted on February 15, 2000. The average emission rate recorded during the emission test was 0.73 lb of OC/hr. If required, the permittee shall demonstrate compliance with this mass emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25 to determine the hourly mass emission rate.

The hourly mass emission rate shall be multiplied by the maximum hours of operation per year and then divided by 2000 to determine the TPY emission rate.

 - b. Emission Limitations:
The actual emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act from emissions units P004 (Oleochemical Process), J001 (Methanol Loadout), fat traps, fugitive leaks, all miscellaneous tanks, sumps and small air contaminant sources shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs, including HAP acid mists. Compliance with the above limitations shall be based on a rolling, 12-month summation.

Applicable Compliance Method:
Compliance with the HAP emission limitations in term A.2.b shall be demonstrated by the record keeping in term C.3.
- 2. Compliance with OAC rule 3745-21-07 shall be demonstrated by the record keeping in term C.5.
- 3. Compliance with the limitation in term A.2.a shall be demonstrated by the record keeping in term C.4.

F. Miscellaneous Requirements

- 1. The following terms and conditions of air permit-to-install number 14-05851 are federally enforceable: A, B, C.1 - C.5, D and E.