



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL CERTIFIED MAIL  
SUMMIT COUNTY**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 16-02175**

**DATE: 1/31/2002**

Goodyear Tire/Rubber Akron Polymer Plant  
Doug Oblak  
1376 Techway Dr Bldg 119  
Akron, OH 44306

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
236 East Town Street, Room 300  
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager  
Field Operations and Permit Section  
Division of Air Pollution Control

CC: USEPA

ARAQMD



**Permit To Install  
Terms and Conditions**

**Issue Date: 1/31/2002  
Effective Date: 1/31/2002**

**FINAL PERMIT TO INSTALL 16-02175**

Application Number: 16-02175  
APS Premise Number: 1677010195  
Permit Fee: **\$6000**  
Name of Facility: Goodyear Tire/Rubber Akron Polymer Plant  
Person to Contact: Doug Oblak  
Address: 1376 Techway Dr Bldg 119  
Akron, OH 44306

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**1376 Techway Dr Bldg 119  
Akron, Ohio**

Description of proposed emissions unit(s):  
**Synthetic Minor covers modification of P015 split into fifteen (15) separate emissions units.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

## Part I - GENERAL TERMS AND CONDITIONS

### A. Permit to Install General Terms and Conditions

#### 1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

#### 2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### 3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

**Goodyear Tire/Rubber Akron Polymer Plant**  
**PTI Application: 16-02175**  
**Issued: 1/31/2002**

**Facility ID: 1677010195**

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

**6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**7. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

**8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

**9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

**Goodyear Tire/Rubber Akron Polymer Plant**  
**PTI Application: 16-02175**  
**Issued: 1/31/2002**

**Facility ID: 1677010195**

Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

**10. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

**11. Applicability**

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit to Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

**12. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

**Goodyear Tire/Rubber Akron Polymer Plant**  
**PTI Application: 16-02175**  
**Issued: 1/31/2002**

**Facility ID: 1677010195**

**14. Construction Compliance Certification**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**15. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

**B. Permit to Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**SUMMARY (for informational purposes only)**  
**TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

| <u>Pollutant</u> | <u>Tons Per Year</u> |
|------------------|----------------------|
| OCs              | 6.3                  |

7

**Goodyear Tire/Rubber Akron Polymer Plant**

**PTI Application: 16-02175**

**Issued: 1/31/2002**

**Facility ID: 1677010195**

## Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

### A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 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>   |
|--|--------------------------------------|--|
| P030 Polymerization Reactor R2010 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations | OAC rule 3745-31-05 (A)(3)           | <u>For this emissions unit:</u><br>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);<br>22.5 pounds of OCs/day (3 reactor evacuations per day); and<br>4.1 tons/year of OCs (365 days/year).  |
|  | OAC rule 3745-35-07 (B)              | The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).  |
|  | OAC rule 3745-21-07 (G)(2)           | <u>For P030 through P044 combined:</u><br>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B. |
|  |                                      | The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).   |

### 2. Additional Terms and Conditions

- 2.a As determined from application data, the pounds per hour and day OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted batch potential to emit USEPA procedures for this emissions unit. Therefore, no emissions

record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).

- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

## **B. Operational Restrictions**

1. High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
2. Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m3): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85

MAGLC (ug/m3): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

**Issued**Emissions Unit ID: **P031**

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

**E. Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$\begin{aligned} E_h &= R/H; \\ E_d &= (E_h)D; \\ E_y &= (E_d)YW; \end{aligned}$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 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>   |
|--|--------------------------------------|--|
| P031 Polymerization Reactor R2011 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations | OAC rule 3745-31-05 (A)(3)           | <u>For this emissions unit:</u><br>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);<br>22.5 pounds of OCs/day (3 reactor evacuations per day); and<br>4.1 tons/year of OCs (365 days/year).<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B). |
|  | OAC rule 3745-35-07 (B)              | <u>For P030 through P044 combined:</u><br>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.                       |
|  | OAC rule 3745-21-07 (G)(2)           | The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).   |

**2. Additional Terms and Conditions**

- 2.a** As determined from application data, the pounds per hour and day OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted batch potential to emit USEPA procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

**B. Operational Restrictions**

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m3): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85

MAGLC (ug/m3): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

Emissions Unit ID: **P031**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### **E. Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$E_h = R/H;$$

$$E_d = (E_h)D;$$

$$E_y = (E_d)YW;$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P032 Polymerization Reactor R2012 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

**2. Additional Terms and Conditions**

- 2.a** As determined from application data, the pounds per hour and day OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted batch potential to emit USEPA procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

**B. Operational Restrictions**

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m3): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85

MAGLC (ug/m3): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
  
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### D. Reporting Requirements

Emissions Unit ID: P032

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$E_h = R/H;$$

$$E_d = (E_h)D;$$

$$E_y = (E_d)YW;$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P033 Polymerization Reactor R2013 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

**2. Additional Terms and Conditions**

- 2.a** As determined from application data, the pounds per hour and day OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted batch potential to emit USEPA procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

**B. Operational Restrictions**

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m<sup>3</sup>): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m<sup>3</sup>): 85

MAGLC (ug/m<sup>3</sup>): 5071

2. 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 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 Toxics Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  1. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
  
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### **E. Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$E_h = R/H;$$

$$E_d = (E_h)D;$$

$$E_y = (E_d)YW;$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];

**Goodyear Tire/Rubber Akron Polymer Plant**

**PTI Application: 16-02175**

**Issued**

**Facility ID: 1677010195**

Emissions Unit ID: **P033**

Y = 365 days/year [continuous operations]; and  
W = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

## **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P034 Polymerization Reactor R2014 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

**2. Additional Terms and Conditions**

- 2.a** As determined from application data, the pounds per hour and day OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted batch potential to emit USEPA procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

**B. Operational Restrictions**

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m<sup>3</sup>): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m<sup>3</sup>): 85

MAGLC (ug/m<sup>3</sup>): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$E_h = R/H;$$

$$E_d = (E_h)D;$$

$$E_y = (E_d)YW;$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];

**Goodyear Tire/Rubber Akron Polymer Plant**

**PTI Application: 16-02175**

**Issued**

**Facility ID: 1677010195**

Emissions Unit ID: **P034**

Y = 365 days/year [continuous operations]; and  
W = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];

L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];

a = 7.500 pounds of OCs/batch [High-OC batch];

b = 2.425 pounds of OCs/batch [Low-OC batch]; and

W = 1 ton/2000 pounds [weight conversion].

## **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P035 Polymerization Reactor R2015 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

## 2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

## B. Operational Restrictions

1. High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
2. Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a

rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):  
  
Pollutant: styrene (CAS 100-42-5)  
TLV (ug/m3): 213,000  
Maximum Hourly Emission Rate (lbs/hr): 7.5  
Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85  
MAGLC (ug/m3): 5071
2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced

by P030 through P044 combined.

#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$E_h = R/H;$$

$$E_d = (E_h)D;$$

$$E_y = (E_d)YW;$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and

$W = 1 \text{ ton}/2000 \text{ pounds}$  [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

$E = 6.3 \text{ tons/year}$  [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

$H = 895 \text{ batches/year}$  [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];

$L = 2420 \text{ batches/year}$  [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];

$a = 7.500 \text{ pounds of OCs/batch}$  [High-OC batch];

$b = 2.425 \text{ pounds of OCs/batch}$  [Low-OC batch]; and

$W = 1 \text{ ton}/2000 \text{ pounds}$  [weight conversion].

## **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 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>  |
|---|--------------------------------------|---|
| <p>P036 Polymerization Reactor R2016 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p>    | <p><u>For this emissions unit:</u><br/>           7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);<br/>           22.5 pounds of OCs/day (3 reactor evacuations per day); and<br/>           4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> |
|   | <p>OAC rule 3745-35-07 (B)</p>       | <p><u>For P030 through P044 combined:</u><br/>           6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p>   |
|   | <p>OAC rule 3745-21-07 (G)(2)</p>    | <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p>   |

### 2. Additional Terms and Conditions

- 2.a As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate

compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).

- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

## B. Operational Restrictions

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m<sup>3</sup>): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m<sup>3</sup>): 85

MAGLC (ug/m<sup>3</sup>): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$\begin{aligned} E_h &= R/H; \\ E_d &= (E_h)D; \\ E_y &= (E_d)YW; \end{aligned}$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 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>  |
|---|--|---|
| <p>P037 Polymerization Reactor R2017 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/> 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);<br/> 22.5 pounds of OCs/day (3 reactor evacuations per day); and<br/> 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/> 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

### 2. Additional Terms and Conditions

- 2.a As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate

compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).

- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

## B. Operational Restrictions

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m3): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85

MAGLC (ug/m3): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$\begin{aligned} E_h &= R/H; \\ E_d &= (E_h)D; \\ E_y &= (E_d)YW; \end{aligned}$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P038 Polymerization Reactor R2018 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

**2. Additional Terms and Conditions**

- 2.a** As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

**B. Operational Restrictions**

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m<sup>3</sup>): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m<sup>3</sup>): 85

MAGLC (ug/m<sup>3</sup>): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

## Issued

Emissions Unit ID: P038

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

**E. Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$\begin{aligned} E_h &= R/H; \\ E_d &= (E_h)D; \\ E_y &= (E_d)YW; \end{aligned}$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P039 Polymerization Reactor R2019 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

**2. Additional Terms and Conditions**

- 2.a** As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

**B. Operational Restrictions**

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m3): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85

MAGLC (ug/m3): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

**Issued**Emissions Unit ID: **P039**

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

**E. Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$\begin{aligned} E_h &= R/H; \\ E_d &= (E_h)D; \\ E_y &= (E_d)YW; \end{aligned}$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P040 Polymerization Reactor R2020 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

**2. Additional Terms and Conditions**

- 2.a** As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

**B. Operational Restrictions**

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m3): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85

MAGLC (ug/m3): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

- 3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
- 4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### **E. Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$E_h = R/H;$$

$$E_d = (E_h)D;$$

$$E_y = (E_d)YW;$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and

$W = 1 \text{ ton}/2000 \text{ pounds}$  [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

$E = 6.3 \text{ tons/year}$  [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
 $H = 895 \text{ batches/year}$  [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
 $L = 2420 \text{ batches/year}$  [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
 $a = 7.500 \text{ pounds of OCs/batch}$  [High-OC batch];  
 $b = 2.425 \text{ pounds of OCs/batch}$  [Low-OC batch]; and  
 $W = 1 \text{ ton}/2000 \text{ pounds}$  [weight conversion].

## **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P041 Polymerization Reactor R2021 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

**2. Additional Terms and Conditions**

- 2.a** As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

**B. Operational Restrictions**

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m3): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85

MAGLC (ug/m3): 5071

2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
  
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### **E. Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$E_h = R/H;$$

$$E_d = (E_h)D;$$

$$E_y = (E_d)YW;$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and

$W = 1 \text{ ton}/2000 \text{ pounds}$  [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

$E = 6.3 \text{ tons/year}$  [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
 $H = 895 \text{ batches/year}$  [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
 $L = 2420 \text{ batches/year}$  [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
 $a = 7.500 \text{ pounds of OCs/batch}$  [High-OC batch];  
 $b = 2.425 \text{ pounds of OCs/batch}$  [Low-OC batch]; and  
 $W = 1 \text{ ton}/2000 \text{ pounds}$  [weight conversion].

## F. Miscellaneous Requirements

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 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>  |
|---|--|---|
| <p>P042 Polymerization Reactor R2022 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>7.5 pounds of OCs/hour (1-hour average for each reactor evacuation); 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

## 2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).
- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

## B. Operational Restrictions

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a

rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):
 

Pollutant: styrene (CAS 100-42-5)  
 TLV (ug/m3): 213,000  
 Maximum Hourly Emission Rate (lbs/hr): 7.5  
 Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85  
 MAGLC (ug/m3): 5071
2. 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 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 Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced

by P030 through P044 combined.

#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
 22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$E_h = R/H;$$

$$E_d = (E_h)D;$$

$$E_y = (E_d)YW;$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and

$W = 1 \text{ ton}/2000 \text{ pounds}$  [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

$E = 6.3 \text{ tons/year}$  [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

$H = 895 \text{ batches/year}$  [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];

$L = 2420 \text{ batches/year}$  [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];

$a = 7.500 \text{ pounds of OCs/batch}$  [High-OC batch];

$b = 2.425 \text{ pounds of OCs/batch}$  [Low-OC batch]; and

$W = 1 \text{ ton}/2000 \text{ pounds}$  [weight conversion].

## F. Miscellaneous Requirements

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 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>  |
|---|--|---|
| <p>P043 Polymerization Reactor R2023 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/>           7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);<br/>           22.5 pounds of OCs/day (3 reactor evacuations per day); and<br/>           4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/>           6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

### 2. Additional Terms and Conditions

- 2.a As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate

compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).

- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

## B. Operational Restrictions

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m3): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m3): 85

MAGLC (ug/m3): 5071

2. 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 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 Toxics Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

**Issued**Emissions Unit ID: **P043**

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

**E. Testing Requirements**

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$\begin{aligned} E_h &= R/H; \\ E_d &= (E_h)D; \\ E_y &= (E_d)YW; \end{aligned}$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(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 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>  |
|---|--|---|
| <p>P044 Polymerization Reactor R2025 (formerly a component of P015 permitted in PTI 16-494, as issued November 5, 1986) resin latex manufacturing process, three batches per day maximum production capacity, air emissions of organic compounds (OCs) only occur during each single 30-minute reactor evacuation per batch and are vented to a flare stack with an assumed OC destruction efficiency of 0% due to the low BTU content of the reactor evacuation air stream, MODIFICATION per PTI 16-02175 to establish new emission limits and impose facility-requested federally enforceable Title V Synthetic Minor (TVSM) production limitations</p> | <p>OAC rule 3745-31-05 (A)(3)</p> <p>OAC rule 3745-35-07 (B)</p> <p>OAC rule 3745-21-07 (G)(2)</p> | <p><u>For this emissions unit:</u><br/> 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);<br/> 22.5 pounds of OCs/day (3 reactor evacuations per day); and<br/> 4.1 tons/year of OCs (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p> <p><u>For P030 through P044 combined:</u><br/> 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable production limitations of Part II, section B.</p> <p>The OC emission limitations required by OAC rule 3745-21-07 (G)(2) are less stringent than the OC emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).</p> |

### 2. Additional Terms and Conditions

- 2.a As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon the unrestricted potential to emit for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate

compliance with these emission limits. However, if any proposed change(s), such as with process raw materials, latex formulations, polymerization efficiency, monomer contents, production capacity, cleanup materials, etc., or any other change(s), increase(s) the potential to emit, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to the change(s).

- 2.b** All raw materials and any other solvents shall be properly identified and held in closed containers or storage vessels at all times when not in use.
- 2.c** All used solvents in this emissions unit shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

## B. Operational Restrictions

- High-OC batch production for P030 through P044 combined shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly production rates. The permittee has existing production records such that there is no need for first year monthly batch production limitations.
- Low-OC batch production for P030 through P044 combined shall be limited in accordance with the following equation:

$$L = (EW/b) - H(a/b)$$

where:

L = Low-OC batch production for P030 through P044 combined limitation, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates, as a function of H;

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];

W = 2000 pounds/ton [weight conversion];

H = High-OC batch production for P030 through P044 combined, in batches/year, based upon a rolling, 12-month summation of the monthly batch production rates;

a = 7.500 pounds of OCs/batch [High-OC batch]; and

b = 2.425 pounds of OCs/batch [Low-OC batch].

[Note: the above linear equation with a slope of about (-3.093) specifies that approximately for every ten (10) High-OC batches processed, the permittee shall process thirty-one (31) fewer Low-OC batches so that emissions do not exceed 6.3 tons/year of OCs, based upon a rolling, 12-month summation of the monthly emissions.]

### C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process 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 Toxics 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 Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: styrene (CAS 100-42-5)

TLV (ug/m<sup>3</sup>): 213,000

Maximum Hourly Emission Rate (lbs/hr): 7.5

Predicted 1-Hour Maximum Ground-Level Concentration at 154 m (ug/m<sup>3</sup>): 85

MAGLC (ug/m<sup>3</sup>): 5071

2. 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 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 Toxics Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
  - a. changes in the composition of the materials used (process materials and 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 Toxics 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(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.

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics 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 Toxics 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 Toxics Policy" for the change.
4. The permittee shall maintain monthly records of the following information:
  - a. The High-OC & Low-OC batches produced by P030 through P044 combined for each month.
  - b. The rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by P030 through P044 combined.
  - c. The calculated Low-OC batch limit for P030 through P044 combined using the appropriate recorded information of C.4.b, and the equation of B.2 above.
  - d. The monthly OC emissions from all batches produced by P030 through P044 combined.
  - e. The rolling, 12-month summation of the monthly OC emissions from all batches produced by P030 through P044 combined.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify any exceedances of the

Emissions Unit ID: P044

High-OC and/or Low-OC batch production limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the 6.3 tons of OCs/year, based upon a rolling, 12-month summation of the monthly OC emissions, limitation for P030 through P044 combined, as well as the corrective actions that were taken to achieve compliance.
3. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

#### E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be based on the potential to emit as follows:
  - a. Emission Limitations: 7.5 pounds of OCs/hour (1-hour average for each reactor evacuation);  
22.5 pounds of OCs/day (3 reactor evacuations per day); and 4.1 tons/year of OCs (365 days/year) for this emissions unit

Applicable Compliance Method: The above emission limitations are based on the unrestricted potential to emit as shown in the following equations:

$$\begin{aligned} E_h &= R/H; \\ E_d &= (E_h)D; \\ E_y &= (E_d)YW; \end{aligned}$$

where:

$E_h$  = 7.5 pounds of OCs/hour [hourly potential emissions based on 1-hour average for each reactor evacuation];  
 $E_d$  = 22.5 pounds of OCs/day [daily potential emissions based on 3 reactor evacuations per day];  
 $E_y$  = 4.1 tons of OCs/year [yearly potential emissions based on 365 days per year];  
 $R$  = 7.5 pounds of OCs/reactor evacuation [emissions for each 30-minute reactor evacuation];  
 $H$  = 1.0 hour [conversion to 1-hour average emissions rate];  
 $D$  = 3 reactor evacuations/day [maximum capacity];  
 $Y$  = 365 days/year [continuous operations]; and  
 $W$  = 1 ton/2000 pounds [weight conversion].

- b. Emission Limitation: 6.3 tons/year of OCs for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method: The above emission limitation was established using the federally enforceable restricted batch production potential to emit as shown in the following equation:

$$E = (aH + bL)W$$

where:

E = 6.3 tons/year [maximum allowable annual OC emissions for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly emissions.];  
H = 895 batches/year [proposed maximum High-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
L = 2420 batches/year [proposed maximum Low-OC batch production for P030 through P044 combined, based upon a rolling, 12-month summation of the monthly batch production rates];  
a = 7.500 pounds of OCs/batch [High-OC batch];  
b = 2.425 pounds of OCs/batch [Low-OC batch]; and  
W = 1 ton/2000 pounds [weight conversion].

#### **F. Miscellaneous Requirements**

1. Permit to install (PTI) 16-02175 supersedes all of the requirements of PTI 16-494 issued November 5, 1986.
2. Except for Part II - C.1 through C.3, all terms and conditions of this permit are federally enforceable.