



Environmental Protection Agency

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

3/15/2011

Mr. Doug Oblak  
ELIOKEM INC - AKRON PLANT  
1380 Tech Way Drive  
Akron, OH 44306

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1677010195  
Permit Number: P0106757  
Permit Type: Renewal  
County: Summit

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

If you have any questions, please contact Akron Regional Air Quality Management District at (330)375-2480 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: ARAQMD





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
ELIOKEM INC - AKRON PLANT**

Facility ID:	1677010195
Permit Number:	P0106757
Permit Type:	Renewal
Issued:	3/15/2011
Effective:	3/15/2011
Expiration:	3/15/2016





Division of Air Pollution Control
Permit-to-Install and Operate
for
ELIOKEM INC - AKRON PLANT

Table of Contents

Authorization ..... 1
A. Standard Terms and Conditions ..... 4
1. What does this permit-to-install and operate ("PTIO") allow me to do?..... 5
2. Who is responsible for complying with this permit? ..... 5
3. What records must I keep under this permit? ..... 5
4. What are my permit fees and when do I pay them?..... 5
5. When does my PTIO expire, and when do I need to submit my renewal application? ..... 5
6. What happens to this permit if my project is delayed or I do not install or modify my source? ..... 6
7. What reports must I submit under this permit? ..... 6
8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit? ..... 6
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ... 6
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? ..... 7
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? ..... 7
12. What happens if one or more emissions units operated under this permit is/are shut down permanently? ..... 7
13. Can I transfer this permit to a new owner or operator?..... 8
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"? ..... 8
15. What happens if a portion of this permit is determined to be invalid? ..... 8
B. Facility-Wide Terms and Conditions..... 9
C. Emissions Unit Terms and Conditions ..... 11
1. Emissions Unit Group - Polymerization Reactors: P030, P031, P032, P033, P034, P035, P036, P037, P038, P039, P040, P041, P042, P043, P044, ..... 12



## Authorization

Facility ID: 1677010195  
Application Number(s): A0039917  
Permit Number: P0106757  
Permit Description: Renewal of federally enforceable Permit to Install and Operate (FEPTIO) for various resin latex manufacturing processes.  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 3/15/2011  
Effective Date: 3/15/2011  
Expiration Date: 3/15/2016  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

ELIOKEM INC - AKRON PLANT  
1380 Techway Dr Bldg 119  
Akron, OH 44306

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

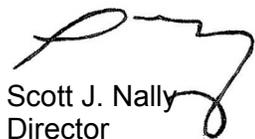
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Akron Regional Air Quality Management District  
146 South High Street, Room 904  
Akron, OH 44308  
(330)375-2480

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section 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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0106757  
Permit Description: Renewal of federally enforceable Permit to Install and Operate (FEPTIO) for various resin latex manufacturing processes.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

**Group Name: Polymerization Reactors**

<b>Emissions Unit ID:</b>	<b>P030</b>
Company Equipment ID:	Polymerization Reactor R2010
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P031</b>
Company Equipment ID:	Polymerization Reactor R2011
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P032</b>
Company Equipment ID:	Polymerization Reactor R2012
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P033</b>
Company Equipment ID:	Polymerization Reactor R2013
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P034</b>
Company Equipment ID:	Polymerization Reactor R2014
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P035</b>
Company Equipment ID:	Polymerization Reactor R2015
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P036</b>
Company Equipment ID:	Polymerization Reactor R2016
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P037</b>
Company Equipment ID:	Polymerization Reactor R2017
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P038</b>
Company Equipment ID:	Polymerization Reactor R2018
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P039</b>
Company Equipment ID:	Polymerization Reactor R2019
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P040</b>
Company Equipment ID:	Polymerization Reactor R2020
Superseded Permit Number:	P0102639

General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P041</b>
Company Equipment ID:	Polymerization Reactor R2021
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P042</b>
Company Equipment ID:	Polymerization Reactor R2022
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P043</b>
Company Equipment ID:	Polymerization Reactor R2023
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P044</b>
Company Equipment ID:	Polymerization Reactor R2025
Superseded Permit Number:	P0102639
General Permit Category and Type:	Not Applicable

## **A. Standard Terms and Conditions**

**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a

renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Akron Regional Air Quality Management District in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

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<sup>1</sup> Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

## **B. Facility-Wide Terms and Conditions**

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.
2. The Ohio EPA has determined that this facility may be subject to the requirements of an area source MACT/GACT rule that the Ohio EPA does not have the delegated authority to implement. Although Ohio EPA has determined that an area source MACT (also known as the GACT) may apply, at this time Ohio EPA does not have the authority to enforce this standard. Instead, U.S. EPA has the authority to enforce this standard. Please be advised that all requirements associated with these rules are in effect and are enforceable by U.S. EPA. For more information on the area source rules, please refer to the following U.S. EPA website: <http://www.epa.gov/ttn/atw/area/arearules.html>.

## **C. Emissions Unit Terms and Conditions**

**1. Emissions Unit Group - Polymerization Reactors: P030, P031, P032, P033, P034, P035, P036, P037, P038, P039, P040, P041, P042, P043, P044,**

EU ID	Operations, Property and/or Equipment Description
P030	resin latex manufacturing process
P031	resin latex manufacturing process
P032	resin latex manufacturing process
P033	resin latex manufacturing process
P034	resin latex manufacturing process
P035	resin latex manufacturing process
P036	resin latex manufacturing process
P037	resin latex manufacturing process
P038	resin latex manufacturing process
P039	resin latex manufacturing process
P040	resin latex manufacturing process
P041	resin latex manufacturing process
P042	resin latex manufacturing process
P043	resin latex manufacturing process
P044	resin latex manufacturing process

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(1)(d), d)(2) through (5), and e)(4).

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (Established by PTI 16-02175, issued final 1/31/2002)	Organic compound (OC) emissions from each emissions unit (polymerization reactor) of this emissions units group, shall not exceed the following:

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>7.5 pounds/hour (1-hour average for each reactor evacuation);</p> <p>22.5 pounds/day (3 reactor evacuations per day); and</p> <p>4.1 tons/year (365 days/year).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rule 3745-114 &amp; ORC 3704.03(F).</p>
b.	OAC rule 3745-31-05(D) (To avoid Title V requirements)	Total OC emissions from emissions units P030 through P044, combined, shall not exceed 6.3 tons/year, based upon a rolling, 12-month summation of the monthly emissions.
c.	OAC rule 3745-21-07	<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> <p>[On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally approved SIP for Ohio.]</p>
d.	OAC rule 3745-114 ORC 3704.03(F)	See d)(2) through (5) and e)(4).
e.	<p>40 CFR Part 63, Subpart VVVVVV (40 CFR 63.11494 – 11503)</p> <p>[In accordance with 40 CFR 63.11494 – 11503, each emissions unit of this emissions unit group is a chemical manufacturing process unit (CMPU) located at an existing affected source subject to the</p>	<p>Per 40 CFR 63.11494(f), the owner/operator of an existing affected source must achieve compliance with the applicable provisions of this subpart by October 29, 2012.</p> <p>Ohio EPA has not accepted delegated authority to implement and enforce this subpart. A citation from the 8/5/2010</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	emissions limitations / control measures specified in this subpart.]	guidance for area source MACT/GACT rules was included in the Facility-Wide Terms and Conditions section.

(2) Additional Terms and Conditions

a. The 7.5 pounds/hour; 22.5 pounds/day; and 4.1 tons/year OC emission limitations, established pursuant to OAC rule 3745-31-05(A)(3), reflect the potentials to emit for each emissions unit of this emissions units group. Therefore, no monitoring, record keeping or reporting are required to demonstrate compliance with these emission limitations.

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), increases the potential to emit, then the permittee shall apply for and obtain either a modification to this permit or a new final permit to install/operate prior to the change(s).

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. All used solvents shall be properly identified and held in a closed storage drum for appropriate off-site disposal.

c) Operational Restrictions

(1) High-OC batch production for emissions units P030 through P044, combined, shall not exceed 1680 batches/year, based upon a rolling, 12-month summation of the monthly batch 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 emissions units 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 limitation for emissions units P030 through P044, combined, 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 emissions units 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 emissions units 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 OC/batch [High-OC batch]; and

b = 2.425 pounds of OC/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 OC, based upon a rolling, 12-month summation of the monthly emissions.]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information:
  - a. the High-OC & Low-OC batches produced by emissions units P030 through P044, combined, for each month;
  - b. the rolling, 12-month production rate summations for the High-OC & Low-OC batches produced by emissions units P030 through P044, combined;
  - c. the calculated Low-OC batch limit for emissions units P030 through P044, combined, using the appropriate recorded information of section d)(1)(a) and the equation of section c)(2) above;
  - d. the monthly OC emissions from all batches produced by emissions units P030 through P044, combined; and
  - e. the rolling, 12-month summation of the monthly OC emissions from all batches produced by emissions units P030 through P044, combined.
- (2) The permit-to-install (PTI) 16-02175, issued final 1/31/2002, application for this/these emissions unit(s), P030 through P044, was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
  - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been

documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

- i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
  - c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X = 24" hours per day and "Y = 7" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: 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

The permittee, has demonstrated that emissions of styrene, from each emissions unit of this emissions unit group, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (3) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV 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 toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (4) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
  - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (5) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum

ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
  - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
    - i. 6.3 tons OC/year, based upon a rolling, 12-month summation (from emissions units P030 through P044, combined);
    - ii. 1680 High OC batches/year, based upon a rolling, 12-month summation (for emissions units P030 through P044, combined); and
    - iii. any Low-OC batch production restriction (calculated in accordance with the equation:  $L = (EW/b) - H(a/b)$  for emissions units P030 through P044, combined, limited in accordance with the equation:  $L = (EW/b) - H(a/b)$ .
  - b. the probable cause of each deviation (excursion);
  - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
  - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (4) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum

ground-level concentration, in the annual PER. If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

f) Testing Requirements

(1) Compliance with the emission limitations in Section b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations

OC emissions from each emissions unit (polymerization reactor) of this emissions units group shall not exceed 7.5 pounds/hour (1-hour average for each reactor evacuation); 22.5 pounds/day (3 reactor evacuations per day); and 4.1 tons/year (365 days/year).

Compliance Method

Compliance with the above emission limitations shall be based on the following potential to emit calculation:

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

where:

$E_h$  = 7.5 pounds/hour of OC [hourly potential emissions based on 1-hour average for each reactor evacuation];

$E_d$  = 22.5 pounds/day of OC [daily potential emissions based on 3 reactor evacuations per day];

$E_y$  = 4.1 tons/year of OC [yearly potential emissions based on 365 days per year];

$R$  = 7.5 pounds of OC/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

Total OC emissions from emissions units P030 through P044, combined, shall not exceed 6.3 tons/year, based upon a rolling, 12-month summation of the monthly emissions.

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 emissions units 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 emissions units 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 emissions units P030 through P044, combined, based upon a rolling, 12-month summation of the monthly batch production rates];

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

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

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

g) Miscellaneous Requirements

(1) None.