State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

Certified Mail

5/19/2009

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR
No	CEMS
No	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Robert STERNFELOL
Research Organics Inc.
4353 East 49th Street
Cuyahoga Heights, OH 44125

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 1318172081
Permit Number: P0095320
Permit Type: Renewal
County: Cuyahoga

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.

Ohio EPA maintains a document entitled "Frequently Asked Questions about the PTIO". The document can be downloaded from the DAPC Web page, www.epa.state.oh.us/dapc, from the "Permits" link. This document contains additional information related to your permit, such as what activities are covered under the PTIO, who has enforcement authority over the permit and Ohio EPA's authorization to inspect your facility and records. Please contact the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469 if you need assistance.

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of $70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

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

If you have any questions regarding this permit, please contact the Cleveland Division of Air Quality. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page www.epa.state.oh.us/dapc.

Sincerely,

Michael W. Ahern

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

Cc: CDAQ

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

FINAL

Air Pollution Permit-to-Install and Operate
for
Research Organics Inc.

Facility ID: 1318172081
Permit Number: P0095320
Permit Type: Renewal
Issued: 5/19/2009
Effective: 5/19/2009
Expiration: 5/19/2014

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install and Operate
for
Research Organics Inc.

Table of Contents

Authorization 1

A. Standard Terms and Conditions 5

1. What does this permit-to-install and operate ("PTIO") allow me to do? 6
2. Who is responsible for complying with this permit? 6
3. What records must I keep under this permit? 6
4. What are my permit fees and when do I pay them? 6
5. When does my PTIO expire, and when do I need to submit my renewal application? 6
6. What happens to this permit if my project is delayed or I do not install or modify my source? 7
7. What reports must I submit under this permit? 7
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? 7
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? 7
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? 8
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? 8
12. What happens if one or more emissions units operated under this permit is/are shut down permanently? 8
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"? 9
15. What happens if a portion of this permit is determined to be invalid? 9

B. Facility-Wide Terms and Conditions 10

C. Emissions Unit Terms and Conditions 12

1. P005, Reactor No. 7 Process Line 13
2. P006, Reactor No. 12 Process Line 21
3. P007, Reactor No. 13 Process Line 29
4. P008, Reactor No. 1 Process Line 37
5. P011, Reactor No. 4 Process Line 45
6. P012, Reactor No. 5 Process Line 53
7. P013, Reactor No. 8 Process Line 63
8. P014, Reactor No. 9 Process Line 71
9. P016, Tumbler No. 2 81
10. P017, Tumbler No. 3 90

11. P019, Tumbler No. 4 99
12. P024, Tumbler No. 6 108
13. P027, Reactor No. 18 Process Line 116
14. P028, Reactor No. 14 Process Line 124
15. P029, Reactor No. 15 Process Line 134
16. P030, Reactor No. 16 Process Line 144
17. P031, Reactor No. 17 Process Line 154
18. P033, Reactor No. 19 Process Line 163
19. P039, Tumbler No. 9 172
20. P044, Alcohol Material Loading Rack 178
21. P047, Reactor No. 22 Process Line 187
22. P048, Reactor No. 23 Process Line 195
23. P049, Tumbler No. 7 203
24. P050, Tumbler No. 8 211
25. P051, Tumbler No. 10 219

Authorization

Facility ID: 1318172081
Application Number(s): A0026879
Permit Number: P0095320
Permit Description: Facility Potential to Emit and actual emissions are below the Title V thresholds. This permit will restrict facility-wide HAPs to less than 10 tons/year any single HAP, and 25 tons/year any combination of HAPs. This facility also has federally enforceable HAP restrictions established in several issued Synethic Minor PTIs. Due to these restrictions, Title V will not apply to this facility as the facility will be kept below the thresholds. MACT subpart FFFF for Miscellaneous Organic Chemical Manufacturing was signed and effective on November 10, 2003, so the compliance deadline would be November 10, 2006. Several Synthetic Minor PTIs containing the facility-wide HAP restrictions were issued before the compliance deadline in order to avoid the MACT requirements.
Permit Type: Renewal
Permit Fee: $0.00
Issue Date: 5/19/2009
Effective Date: 5/19/2009
Expiration Date: 5/19/2014
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Research Organics Inc.
4353 East 49th Street
Cuyahoga Heights, OH 44125

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:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

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

Chris Korleski
Director

Authorization (continued)

Permit Number: P0095320
Permit Description: Facility Potential to Emit and actual emissions are below the Title V thresholds. This permit will restrict facility-wide HAPs to less than 10 tons/year any single HAP, and 25 tons/year any combination of HAPs. This facility also has federally enforceable HAP restrictions established in several issued Synethic Minor PTIs. Due to these restrictions, Title V will not apply to this facility as the facility will be kept below the thresholds. MACT subpart FFFF for Miscellaneous Organic Chemical Manufacturing was signed and effective on November 10, 2003, so the compliance deadline would be November 10, 2006. Several Synthetic Minor PTIs containing the facility-wide HAP restrictions were issued before the compliance deadline in order to avoid the MACT requirements.

Permits for the following emissions unit(s) or groups of emissions units are in this document as indicated below:

Emissions Unit ID: **P005**
Company Equipment ID: Reactor No. 7 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P006**
Company Equipment ID: Reactor No. 12 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P007**
Company Equipment ID: Reactor No. 13 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P008**
Company Equipment ID: Reactor No. 1 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P011**
Company Equipment ID: Reactor No. 4 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P012**
Company Equipment ID: Reactor No. 5 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P013**
Company Equipment ID: Reactor No. 8 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P014**
Company Equipment ID: Reactor No. 9 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P016**
Company Equipment ID: Tumbler No. 2
Superseded Permit Number:

General Permit Category and Type: Not Applicable

Emissions Unit ID: **P017**
Company Equipment ID: Tumbler No. 3
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P019**
Company Equipment ID: Tumbler No. 4
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P024**
Company Equipment ID: Tumbler No. 6
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P027**
Company Equipment ID: Reactor No. 18 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P028**
Company Equipment ID: Reactor No. 14 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P029**
Company Equipment ID: Reactor No. 15 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P030**
Company Equipment ID: Reactor No. 16 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P031**
Company Equipment ID: Reactor No. 17 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P033**
Company Equipment ID: Reactor No. 19 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P039**
Company Equipment ID: Tumbler No. 9
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P044**
Company Equipment ID: Alcohol Material Loading Rack
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P047**
Company Equipment ID: Reactor No. 22 Process Line
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: **P048**
Company Equipment ID: Reactor No. 23 Process Line
Superseded Permit Number:

General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P049**
Company Equipment ID:	Tumbler No. 7
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P050**
Company Equipment ID:	Tumbler No. 8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P051**
Company Equipment ID:	Tumbler No. 10
Superseded Permit Number:	
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. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. 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 Cleveland Division of Air Quality 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 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 emission 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.

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.

C. Emissions Unit Terms and Conditions

1. P005, Reactor No. 7 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 7 Process Line - Hot oil reactor, crystallizer, centrifuge and filter press controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)b., b)(2)b., d)(7), e)(1), f)(1)b. and f)(1)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-21-07(G)(2) (PTI #13-04695 issued 7/17/2007)	Organic compound (OC) emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day. See b)(2)a. below.
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V and MACT	OC emissions shall not exceed 4.5 tons/year based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)d. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)a., d)(6)c., d)(6)d., d)(6)f., d)(6)g., and f)(1)a.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)e.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the OC emissions from this air contaminant source since the calculated annual emission rate for OC is less than 10.0 tons/year taking into account the voluntary limit of 4.5 tons/year based upon a rolling, 12-month summation under OAC rule 3745-31-05(D) and scrubber control.

e. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber,

the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month for P005:

a. the name and identification of each product;

b. number of batches;

c. number of days in operation;

d. number of hours in operation;

e. the calculated amount of OC emissions for the month using the formula provided below:

(lbs OC emissions/batch) x (number of batches/month) x (1-0.95 control efficiency) = lbs OC emissions/month

also, the permittee shall keep a rolling, 12-month summation of the monthly emissions.

f. the calculated amount of OC emissions for each day [e divided by c]; and

g. the average hourly OC emissions rate, in lbs/hr (average [e divided by d].

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

*A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

e) Reporting Requirements

(1) 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. 4.5 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October

(covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
OC emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day.

Applicable Compliance Method:
Compliance with these emission limitations may be demonstrated based upon the records required pursuant to d)(6) The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

If required by CDAQ or Ohio EPA, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
4.5 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(6).

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P005 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P005, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval

prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the Ohio EPA's "Toxic Air Contaminant Statute," ORC 3704.03(F) was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1.0 ton per year of each toxic pollutant that is listed under OAC rule 3745-114-01(A).

2. P006, Reactor No. 12 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 12 Process Line - 200 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)b., b)(2)b., d)(7), e)(1), f)(1)b. and f)(1)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-21-07(G)(2) (PTI #13-04695 issued 7/17/2007)	Organic compound (OC) emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day. See b)(2)a. below.
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V and MACT	OC emissions shall not exceed 4.5 tons/year based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)d. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)a., d)(6)c., d)(6)d., d)(6)f., d)(6)g., and f)(1)a.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)e.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the OC emissions from this air contaminant source since the calculated annual emission rate for OC is less than 10.0 tons/year taking into account the voluntary limit of 4.5 tons/year based upon a rolling, 12-month summation under OAC rule 3745-31-05(D) and scrubber control.

e. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber,

the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month for P006:

a. the name and identification of each product;

b. number of batches;

c. number of days in operation;

d. number of hours in operation;

e. the calculated amount of OC emissions for the month using the formula provided below:

(lbs OC emissions/batch) x (number of batches/month) x (1-0.95 control efficiency) = lbs OC emissions/month

also, the permittee shall keep a rolling, 12-month summation of the monthly emissions.

f. the calculated amount of OC emissions for each day [e divided by c]; and

g. the average hourly OC emissions rate, in lbs/hr (average) [e divided by d].

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

*A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

e) Reporting Requirements

(1) 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. 4.5 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October

(covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
OC emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day.

Applicable Compliance Method:
Compliance with these emission limitations may be demonstrated based upon the records required pursuant to d)(6) The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

If required by CDAQ or Ohio EPA, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
4.5 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(6).

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P006 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P006, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval

prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the Ohio EPA's "Toxic Air Contaminant Statute," ORC 3704.03(F) was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1.0 ton per year of each toxic pollutant that is listed under OAC rule 3745-114-01(A).

3. P007, Reactor No. 13 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 13 Process Line - 200 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)b., b)(2)b.., d)(7), e)(1), f)(1)b. and f)(1)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-21-07(G)(2) (PTI #13-04695 issued 7/17/2007)	Organic compound (OC) emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day. See b)(2)a. below.
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V and MACT	OC emissions shall not exceed 4.5 tons/year based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)d. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)a., d)(6)c., d)(6)d., d)(6)f., d)(6)g., and f)(1)a.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)e.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the OC emissions from this air contaminant source since the calculated annual emission rate for OC is less than 10.0 tons/year taking into account the voluntary limit of 4.5 tons/year based upon a rolling, 12-month summation under OAC rule 3745-31-05(D) and scrubber control.

e. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber,

the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month for P007:

a. the name and identification of each product;

b. number of batches;

c. number of days in operation;

d. number of hours in operation;

e. the calculated amount of OC emissions for the month using the formula provided below:

(lbs OC emissions/batch) x (number of batches/month) x (1-0.95 control efficiency) = lbs OC emissions/month

also, the permittee shall keep a rolling, 12-month summation of the monthly emissions.

f. the calculated amount of OC emissions for each day [e divided by c]; and

g. the average hourly OC emissions rate, in lbs/hr (average) [e divided by d].

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

*A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

e) Reporting Requirements

(1) 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. 4.5 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October

(covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
OC emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day.

Applicable Compliance Method:
Compliance with these emission limitations may be demonstrated based upon the records required pursuant to d)(6) The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

If required by CDAQ or Ohio EPA, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
4.5 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(6).

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P007 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P007, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval

prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the Ohio EPA's "Toxic Air Contaminant Statute," ORC 3704.03(F) was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1.0 ton per year of each toxic pollutant that is listed under OAC rule 3745-114-01(A).

4. P008, Reactor No. 1 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 1 Process Line - 200 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)b., c)(3), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-02513 issued 8/4/1993)	0.0081 lb/hr OC emissions The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.
c.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	0.035 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(2) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(3) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for process line P008:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.035 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.0081 lb/hr OC emissions

Applicable Compliance Method:
Compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
0.035 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(3), emission factors developed by the company or the most recent emissions test and the following equation:

1.48 lbs OC emissions/batch(emission factor(s)) x number of batches/month x (1 - scrubber control efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors developed by the company were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in section d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in section d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P008 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P008, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

5. P011, Reactor No. 4 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 4 Process Line - 200 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)b., c)(3), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-02513 issued 8/4/1993)	0.0081 lb/hr OC emissions The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.
c.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	0.035 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(2) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(3) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for process line P011:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.035 ton OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.0081 lb/hr OC emissions

Applicable Compliance Method:
Compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
0.035 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(3), emission factors developed by the company or the most recent emissions test and the following equation:

1.48 lbs OC emissions/batch(emission factor(s)) x number of batches/month x (1 - scrubber control efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors developed by the company were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P011 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P011, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating

parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

6. P012, Reactor No. 5 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 5 Process Line - 300 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. d)(5).

(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)(2)b., c)(3), d)(4), e)(1), f)(1)e. and f)(1)f.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03679 issued 9/21/2000)	0.24 lbs/hr and 1.051 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. 0.059 lbs/hr and 0.26 tpy hydrochloric acid emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(2) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(3) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for process line P012:

a. the name and identification of each product.

b. number of batches.

c. the calculated amount of OC emissions for the previous month per f)(1)b.

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

e. the calculated amount of HCL acid emissions for the previous month.

f. the calculated rolling,12-month HCL acid emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

(5) The permit to install for this emissions unit P012 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 0.24
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 31.28
MAGLC (ug/m3): 6240

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, or the use of new materials, that would result in the emissions of a compound with the 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy;" and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 1.051 tons OC/year as a rolling, 12-month summation

ii. 0.26 tons HCl/year as a rolling, 12-month summation

iii. 9.9 tons/year for any individual HAP

iv. 24.9 tons/year for any combination of HAPs

v. the static pressure across scrubber Nos. 2 and/or 5

vi. the water flow rate for scrubber Nos. 2 and/or 5

vii. the liquor temperature for scrubber No. 2

viii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.24 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
1.051 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(3), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
0.059 lbs/hr hydrochloric acid emissions

Applicable Compliance Method:
If required, compliance with the hydrochloric acid emission limitation shall be determined through emission testing conducted in accordance with Method 26 or 26A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

d. Emission Limitation:
0.26 tpy hydrochloric acid emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(3), emission factors developed by the company and the following equation:

lbs hydrochloric acid emissions/batch(emission factor(s)) x number of batches/month = lbs hydrochloric acid emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs hydrochloric acid emissions/month). Sum the total monthly emissions (total lbs hydrochloric acid emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

e. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

f. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P012 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P012, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

7. P013, Reactor No. 8 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 8 Process Line - 300 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)b., c)(3), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-02513 issued 8/4/1993)	0.0081 lb/hr OC emissions The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.
c.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	0.035 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027 P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(2) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(3) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for process line P013:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.035 ton OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.0081 lb/hr OC emissions

Applicable Compliance Method:
Compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
0.035 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(3), emission factors developed by the company or the most recent emissions test and the following equation:

1.48 lbs OC emissions/batch(emission factor(s)) x number of batches/month x (1 - scrubber control efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors developed by the company were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P013 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P013, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating

parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

8. P014, Reactor No. 9 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 9 Process Line - 300 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. d)(5).

(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)(2)b., c)(3), d)(4), e)(1), f)(1)e. and f)(1)f.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03679 issued 9/21/2000)	0.24 lbs/hr and 1.051 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. 0.059 lbs/hr and 0.26 tpy hydrochloric acid emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in section b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027 P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(2) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(3) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for process line P014:

a. the name and identification of each product.

b. number of batches.

c. the calculated amount of OC emissions for the previous month per f)(1)b.

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

e. the calculated amount of HCL acid emissions for the previous month.

f. the calculated rolling,12-month HCL acid emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

(5) The permit to install for this emissions unit P014 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 0.24
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 31.28
MAGLC (ug/m3): 6240

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, or the use of new materials, that would result in the emissions of a compound with the 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy;" and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 1.051 tons OC/year as a rolling, 12-month summation

ii. 0.26 ton HCl/year as a rolling, 12-month summation

iii. 9.9 tons/year for any individual HAP

iv. 24.9 tons/year for any combination of HAPs

v. the static pressure across scrubber Nos. 2 and/or 5

vi. the water flow rate for scrubber Nos. 2 and/or 5

vii. the liquor temperature for scrubber No. 2

viii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.24 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
1.051 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(3), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
0.059 lbs/hr hydrochloric acid emissions

Applicable Compliance Method:
If required, compliance with the hydrochloric acid emission limitation shall be determined through emission testing conducted in accordance with Method 26 or 26A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

d. Emission Limitation:
0.26 tpy hydrochloric acid emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(3), emission factors developed by the company and the following equation:

lbs hydrochloric acid emissions/batch(emission factor(s)) x number of batches/month = lbs hydrochloric acid emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs hydrochloric acid emissions/month). Sum the total monthly emissions (total lbs hydrochloric acid emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

e. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

f. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P014 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P014, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

9. P016, Tumbler No. 2

Operations, Property and/or Equipment Description:

Tumbler No. 2 controlled by scrubber nos. 2 and/or 5

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. d)(5).

(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)(2)b., c)(4), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03679 issued 9/21/2000)	0.057 lbs/hr and 0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	exempt, see c)(1). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b., c)(1).

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027 P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) This emissions unit shall not employ organic liquids which are photochemically reatcive materials, as defined in OAC rule 3745-21-01(C)(5).

(2) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(3) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(4) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for tumbler P016:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

(5) The permit to install for this emissions unit P016 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied 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: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 0.057
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7.457
MAGLC (ug/m3): 6240

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC

rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 0.25 ton OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to

March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.057 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
0.25 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(2), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P016 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P016, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

10. P017, Tumbler No. 3

Operations, Property and/or Equipment Description:

Tumbler No. 3 controlled by scrubber nos. 2 and/or 5

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. d)(5).

(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)(2)b., c)(4), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03679 issued 9/21/2000)	0.057 lbs/hr and 0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	exempt, see c)(1). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b., c)(1).

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027 P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) This emissions unit shall not employ organic liquids which are photochemically reatcive materials, as defined in OAC rule 3745-21-01(C)(5).

(2) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(3) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(4) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for tumbler P017:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in section f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

(5) The permit to install for this emissions unit P017 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied 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: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 0.057
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7.457
MAGLC (ug/m3): 6240

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC

rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 0.25 ton OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to

March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.057 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
0.25 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(2), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P017 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P017, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

11. P019, Tumbler No. 4

Operations, Property and/or Equipment Description:

Tumbler No. 4 controlled by scrubber nos. 2 and/or 5

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. d)(5).

(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)(2)b., c)(4), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03679 issued 9/21/2000)	0.057 lbs/hr and 0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	exempt, see c)(1). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b., c)(1).

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027 P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) This emissions unit shall not employ organic liquids which are photochemically reatcive materials, as defined in OAC rule 3745-21-01(C)(5).

(2) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(3) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(4) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for tumbler P019:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in section f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

(5) The permit to install for this emissions unit P019 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied 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: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 0.057
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7.457
MAGLC (ug/m3): 6240

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC

rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 0.25 ton OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to

March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.057 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
0.25 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(2), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P019 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P019, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

12. P024, Tumbler No. 6

Operations, Property and/or Equipment Description:

Tumbler No. 6 controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)b., c)(4), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03833 issued 11/62001)	0.057 lb/hr OC emissions The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(G)(2)	Exempt, see c)(1) below. See b)(2)a. below.
c.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b., c)(1).

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) This emissions unit shall not employ organic liquids which are photochemically reatcive materials, as defined in OAC rule 3745-21-01(C)(5).

(2) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(3) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(4) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for tumbler P024:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in section f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.25 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.057 lb/hr OC emissions

Applicable Compliance Method:
Compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method.

b. Emission Limitation:
0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(2), emission factors developed by the company or the most recent emissions test and the following equation:

lbs OC emissions/batch(emission factor(s) of 5.22515 lbs/batch for total emissions, fugitive and point) x number of batches/month x (1 - overall capture efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors developed by the company were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P024 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P024, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

13. P027, Reactor No. 18 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 18 Process Line with crystallizer and centrifuge controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)a., d)(6), e)(1), f)(1)d. and f)(1)e.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-21-07(G)(2)	Organic Compound (OC) emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day See b)(2)a. below.
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V and MACT (PTI #13-04645 issued 2/20/2007)	OC emissions shall not exceed 4.5 tons/year based upon a rolling, 12-month summation of the monthly emissions. See b)(2)a. and b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)a., d)(6)c., d)(6)d., d)(6)f., d)(6)g., and f)(1)a.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)e.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)b. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the OC emissions from this air contaminant source since the calculated annual emission rate for OC is less than 10.0 tons/year taking into account the voluntary limit of 4.5 tons/year based upon a rolling, 12-month summation under OAC rule 3745-31-05(D) and scrubber control.

e. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and

operating manual(s). The permittee shall record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future emission tests. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month for P027:

a. the name and identification of each product;

b. number of batches;

c. number of days in operation;

d. number of hours in operation;

e. the calculated amount of OC emissions for the month using the formula provided below:

(lbs OC emissions/batch) x (number of batches/month) x (1-0.95 control efficiency) = lbs OC emissions/month

also, the permittee shall keep a rolling, 12-month summation of the monthly emissions.

f. the calculated amount of OC emissions for each day [e divided by c]; and

g. the average hourly OC emissions rate, in lbs/hr (average) [e divided by d].

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)b.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

* A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

e) Reporting Requirements

(1) 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. 4.5 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October

(covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
OC emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day.

Applicable Compliance Method:
Compliance with these emission limitations may be demonstrated based upon the records required pursuant to section C.6. The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

If required by CDAQ or Ohio EPA, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
4.5 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(6).

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)b., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)b., as a 12-month rolling summation.

Applicable Compliance Method:

Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P027 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P027, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

14. P028, Reactor No. 14 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 14 Process Line - 300 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. d)(8).

(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)(2)b., d)(7), e)(1), f)(1)e. and f)(1)f.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03833 issued 11/6/2001)	0.24 lbs/hr and 1.051 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. 0.059 lbs/hr and 0.26 tpy hydrochloric acid emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the previous month per Section f)(1)b.;

d. the calculated rolling, 12-month OC emissions for the previous 12 months;

e. the calculated amount of HCL acid emissions for the previous month; and

f. the calculated rolling,12-month HCL acid emissions for the previous 12 months.

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

* A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

(8) The permit to install for this emissions unit P028 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 2.36 (Combined total hourly emissions from P024, P028, P029, P030, P031, and P033)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 308.0
MAGLC (ug/m3): 6240

Pollutant: HCL acid
TLV (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.382 (Combined total hourly emissions from P027 P028, P029, P030, P031 and P032)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 49.82
MAGLC (ug/m3): 178

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, or the use of new materials, that would result in the emissions of a compound with the 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy;" and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 1.051 tons OC/year as a rolling, 12-month summation

ii. 0.26 tons HCl/year as a rolling, 12-month summation

iii. 9.9 tons/year for any individual HAP

iv. 24.9 tons/year for any combination of HAPs

v. the static pressure across scrubber Nos. 2 and/or 5

vi. the water flow rate for scrubber Nos. 2 and/or 5

vii. the liquor temperature for scrubber No. 2

viii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.24 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
1.051 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(6), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
0.059 lbs/hr hydrochloric acid emissions

Applicable Compliance Method:
If required, compliance with the hydrochloric acid emission limitation shall be determined through emission testing conducted in accordance with Method 26 or 26A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

d. Emission Limitation:
0.26 tpy hydrochloric acid emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(6), emission factors developed by the company and the following equation:

lbs hydrochloric acid emissions/batch(emission factor(s)) x number of batches/month = lbs hydrochloric acid emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs hydrochloric acid emissions/month). Sum the total monthly emissions (total lbs hydrochloric acid emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

e. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

f. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P028 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P028, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

15. P029, Reactor No. 15 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 15 Process Line - 300 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. d)(8).

(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)(2)b., d)(7), e)(1), f)(1)e. and f)(1)f.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03833 issued 11/62001)	0.24 lbs/hr and 1.051 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. 0.059 lbs/hr and 0.26 tpy hydrochloric acid emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the previous month per f)(1)b.;

d. the calculated rolling, 12-month OC emissions for the previous 12 months;

e. the calculated amount of HCL acid emissions for the previous month; and

f. the calculated rolling,12-month HCL acid emissions for the previous 12 months.

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

* A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

(8) The permit to install for this emissions unit P029 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 2.36 (Combined total hourly emissions from P024, P028, P029, P030, P031, and P033)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 308.0
MAGLC (ug/m3): 6240

Pollutant: HCL acid
TLV (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.382 (Combined total hourly emissions from P027 P028, P029, P030, P031 and P032)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 49.82
MAGLC (ug/m3): 178

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, or the use of new materials, that would result in the emissions of a compound with the 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy;" and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 1.051 tons OC/year as a rolling, 12-month summation

ii. 0.26 tons HCl/year as a rolling, 12-month summation

iii. 9.9 tons/year for any individual HAP

iv. 24.9 tons/year for any combination of HAPs

v. the static pressure across scrubber Nos. 2 and/or 5

vi. the water flow rate for scrubber Nos. 2 and/or 5

vii. the liquor temperature for scrubber No. 2

viii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.24 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
1.051 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(6), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-

026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
0.059 lbs/hr hydrochloric acid emissions

Applicable Compliance Method:
If required, compliance with the hydrochloric acid emission limitation shall be determined through emission testing conducted in accordance with Method 26 or 26A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

d. Emission Limitation:
0.26 tpy hydrochloric acid emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(6), emission factors developed by the company and the following equation:

lbs hydrochloric acid emissions/batch(emission factor(s)) x number of batches/month = lbs hydrochloric acid emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs hydrochloric acid emissions/month). Sum the total monthly emissions (total lbs hydrochloric acid emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

e. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

f. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049,

P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P029 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P029, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee

may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

16. P030, Reactor No. 16 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 16 Process Line - 300 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubbers no. 2 and/or 5

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. d)(8).

(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)(2)b., d)(7), e)(1), f)(1)e. and f)(1)f.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03833 issued 11/62001)	0.24 lbs/hr and 1.051 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. 0.059 lbs/hr and 0.26 tpy hydrochloric acid emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the previous month per f)(1)b.;

d. the calculated rolling, 12-month OC emissions for the previous 12 months;

e. the calculated amount of HCL acid emissions for the previous month; and

f. the calculated rolling,12-month HCL acid emissions for the previous 12 months.

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

* A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

(8) The permit to install for this emissions unit P030 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 2.36 (Combined total hourly emissions from P024, P028, P029, P030, P031, and P033)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 308.0
MAGLC (ug/m3): 6240

Pollutant: HCL acid
TLV (mg/m3): 7.46
Maximum Hourly Emission Rate (lbs/hr): 0.382 (Combined total hourly emissions from P027 P028, P029, P030, P031 and P032)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 49.82
MAGLC (ug/m3): 178

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, or the use of new materials, that would result in the emissions of a compound with the 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy;" and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 1.051 tons OC/year as a rolling, 12-month summation

ii. 0.26 tons HCl/year as a rolling, 12-month summation

iii. 9.9 tons/year for any individual HAP

iv. 24.9 tons/year for any combination of HAPs

v. the static pressure across scrubber Nos. 2 and/or 5

vi. the water flow rate for scrubber Nos. 2 and/or 5

vii. the liquor temperature for scrubber No. 2

viii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in section b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.24 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
1.051 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in section d)(6), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-

026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
0.059 lbs/hr hydrochloric acid emissions

Applicable Compliance Method:
If required, compliance with the hydrochloric acid emission limitation shall be determined through emission testing conducted in accordance with Method 26 or 26A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

d. Emission Limitation:
0.26 tpy hydrochloric acid emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in section d)(6), emission factors developed by the company and the following equation:

lbs hydrochloric acid emissions/batch(emission factor(s)) x number of batches/month = lbs hydrochloric acid emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs hydrochloric acid emissions/month). Sum the total monthly emissions (total lbs hydrochloric acid emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

e. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

f. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049,

P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P030 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P030, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee

may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

17. P031, Reactor No. 17 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 17 Process Line - 300 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. d)(8).

(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)(1)d., b)(2)b., d)(7), e)(1), f)(1)e. and f)(1)f.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-21-07(G)(2)	Organic compound (OC) emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day. See b)(2)a. below.
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V and MACT (PTI #13-04645 issued 2/20/2007)	OC emissions shall not exceed 4.5 tons/year based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. and b)(2)c. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)d. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)a., d)(6)c., d)(6)d., d)(6)f., d)(6)g., and f)(1)a.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)e.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the OC emissions from this air contaminant source since the calculated annual emission rate for OC is less than 10.0 tons/year taking into account the voluntary limit of 4.5 tons/year based upon a rolling, 12-month summation under OAC rule 3745-31-05(D) and scrubber control.

e. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and

the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the

recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future emission tests. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month for P031:

a. the name and identification of each product;

b. number of batches;

c. number of days in operation;

d. number of hours in operation;

e. the calculated amount of OC emissions for the month using the formula provided below:

(lbs OC emissions/batch) x (number of batches/month) = lbs OC emissions/month

also, the permittee shall keep a rolling, 12-month summation of the monthly emissions.

f. the calculated amount of OC emissions for each day [e divided by c]; and

g. the average hourly OC emissions rate, in lbs/hr (average) [e divided by d].

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

*A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

(8) The permit to install for this emissions unit P031 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 0.24
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 31.28
MAGLC (ug/m3): 6240

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, or the use of new materials, that would result in the emissions of a compound with the 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy;" and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 4.5 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
OC emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day.

Applicable Compliance Method:
Compliance with these emission limitations may be demonstrated based upon the records required pursuant to section C.6. The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

If required by CDAQ or Ohio EPA, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
OC emissions shall not exceed 4.5 tons/year based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(6).

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P031 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P031, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

18. P033, Reactor No. 19 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 19 Process Line - 300 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. d)(8).

(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)(2)b., d)(7), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-03833 issued 11/62001)	0.24 lbs/hr and 1.051 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See b)(2)a. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall

promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the previous month per Section f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

*A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

(8) The permit to install for this emissions unit P033 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as

specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol
TLV (mg/m3): 262
Maximum Hourly Emission Rate (lbs/hr): 2.36 (Combined total hourly emissions from P024, P028, P029, P030, P031, and P033)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 308.0
MAGLC (ug/m3): 6240

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used, or the use of new materials, that would result in the emissions of a compound with the 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 Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy;" and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

(1) 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. 1.051 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.24 lbs/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
1.051 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in section d)(6), emission factors developed by the company and the following equation:

lbs OC emissions/batch(emission factor(s)) x number of batches/month = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P033 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P033, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval

prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

19. P039, Tumbler No. 9

Operations, Property and/or Equipment Description:

Tumbler No. 9 controlled by scrubber no. 3

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. None.

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

a. b)(1)c., b)(2)b., c)(4), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-04056 issued 6/8/2004)	0.039 lb/hr OC emissions The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(G)(2)	Exempt, see c)(1) below. See b)(2)a. below.
c.	OAC rule 3745-31-05(D)	0.17 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b., c)(1).

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) This emissions unit shall not employ organic liquids which are photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(5).

(2) The scrubber No. 3 shall be operating at all times while the emissions unit is in operation.

(3) The permittee shall operate scrubber No. 3 with the following restrictions:

a. the scrubber flow rate in the single tower scrubber No. 3 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallon per minute;

b. the pressure drop across single tower scrubber No. 3 shall be continuously maintained at a value of not less than 1.0 inch of water at all times while the emissions unit is in operation; and

c. the temperature of the scrubber liquor for single tower scrubber No. 3 shall be continuously maintained at a value not more than 90 degrees Fahrenheit.

(4) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure drop across single tower scrubber No. 3, the scrubber's water flow rate in single tower scrubber No. 3 and the scrubber's liquor temperature in single tower scrubber No. 3 while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(2) The permittee shall collect and record the following information each day:

a. the scrubber water flow rate from single tower scrubber No. 3, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

b. the pressure drop across single tower scrubber No. 3 on the scrubber, in inches of water, on once/shift basis;

c. the temperature of the scrubber liquor in single tower scrubber No. 3, in Fahrenheit, on once/shift basis; and

d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for tumbler P039:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in section f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.17 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber No. 3

v. the water flow rate for scrubber No. 3

vi. the liquor temperature for scrubber No. 3

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the director (the appropriate district office or local air agency).

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.039 lb/hr OC emissions

Applicable Compliance Method:
If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method.

b. Emission Limitation:
0.17 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in d)(2), emission factors developed by the company or the most recent emissions test and the following equation:

lbs OC emissions/batch(emission factor(s) of 5.22515 lbs/batch for total emissions, fugitive and point) x number of batches/month x (1 - overall capture efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors developed by the company were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 3 months prior to the expiration of this permit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable emission rate for OC and Methanol emissions.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, and Method 308 for Methanol, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Cleveland Division of Air Quality (Cleveland DAQ).

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

20. P044, Alcohol Material Loading Rack

Operations, Property and/or Equipment Description:

Alcohol Material Loading Rack controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)b., c)(6), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-04389 issued 4/28/2005)	Splash loading: 1.60 lbs/hr of Organic Compound (OC) emissions. Bottom submerged loading: 0.662 lb/hr of OC emissions. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(E)	This emissions unit becomes subject to OAC rule 3745-21-07(E) on any day when any volatile photochemically reactive material is transferred. See b)(2)a. below.
c.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	Splash loading: 0.085 ton/yr of Organic Compound (OC) emissions as a rolling 12-month summation.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Bottom submerged loading: 0.035 ton/yr of OC emissions as a rolling 12-month summation. See c)(4) below. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b. and b)(2)b.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)e.

b. The permittee shall not load in any one day more than forty thousand gallons of any volatile photochemically reactive material into any tank truck, trailer, or railroad tank car from any loading facility unless the loading facility is equipped with a vapor collection and disposal system properly installed, in good working order, and in operation. The operation of the caustic solution packed bed scrubber shall satisfy this control requirement. Per OAC rule 3745-21-01(C)(7), volatile photochemically reactive material means any photochemically reactive material which has a vapor pressure of 1.5 pounds per square inch absolute or greater under actual storage conditions.

c. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)d. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

d. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042,

P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

e. The requirements of amended OAC rule 3745-21-07 do not apply to this emissions unit because the amended rule does not apply to loading racks.

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(2) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(3) This emissions unit (P044) shall be equipped with a vapor collection system whereby during the transfer of material to any delivery vessel:

a. all vapors displaced from the delivery vessel during loading are vented only to the vapor collection system;

b. all vapors collected by the vapor collection system are vented to the caustic solution packed bed scrubber system;

c. a means shall be provided to prevent drainage of material from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected; and

d. all material loading lines and vapor lines shall be equipped with fittings that are vapor tight.

(4) The annual throughput of OC material shall not exceed 1,600,000 gallons, based on a rolling, 12-month summation of the throughput for each material.

(5) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)d. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall maintain monthly records of the following emission information for loading rack P044:

a. the total throughput for each type of loading of material at this emissions unit, in gallons;

b. the rolling, 12-month summations of the total OC material throughput for each type of loading at this emissions unit, in gallons:

Volume throughput current month (gallons of material) + Volume throughput previous 11 months (gallons of material) = Volume throughput total 12-month (gallons of material)

c. the total OC emissions, in tons, generated by truck loading operations identified in this permit; calculated using emission factors from E.1.a multiplied by the monthly throughput for each type of loading;

d. the rolling, 12-month summation of OC emissions, in tons, generated by truck loading operations identified in this permit after the first 12 calendar months of operation following the issuance of this permit;

Air emissions current month (tons of emissions) + Air emissions previous 11 months (tons of emissions) = Air emissions total 12-month (tons of emissions)

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)d.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.035 ton OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitations:
Splash loading shall not exceed 1.60 lbs OC/hr

Bottom loading shall not exceed 0.662 lb OC/hr

Applicable Compliance Method:
To calculate OC emissions for the purpose of determining compliance with the applicable emission limitations the permittee shall use the following emission factors:

0.213 lb of OC/1,000 gallons when splash loading alcohol material into delivery vessels

0.0883 lb of OC/1,000 gallons when bottom loading alcohol material into delivery vessels

The OC emissions from organic material loading shall be determined using USEPA reference document AP-42, Fifth Edition or the most recent edition of AP-42, Compilation of Air Pollution Emission Factors, Section 5.2, Equation 5.2-1 (1/95).

The emission factors shall represent the controlled emission rate using a control efficiency of 90% by weight for OC emissions for the caustic solution packed bed scrubber.

Multiply emission factor by maximum hourly volume throughput rate.

b. Emission Limitations:
0.085 ton OC per year as a rolling, 12-month summation for the truck splash loading operations identified in this permit,

0.035 ton OC per year as a rolling, 12-month summation for the truck bottom loading operations identified in this permit.

Applicable Compliance Method:
Compliance shall be based on the record keeping in d)(2).

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)d., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)d., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P044 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P044, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

21. P047, Reactor No. 22 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 22 Process Line - 200 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)b., b)(2)b., d)(7), e)(1), f)(1)b. and f)(1)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-21-07(G)(2) (PTI #13-04695 issued 7/17/2007)	Organic compound (OC) emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day. See b)(2)a. below.
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V and MACT	OC emissions shall not exceed 4.5 tons/year based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)d. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)a., d)(6)c., d)(6)d., d)(6)f., d)(6)g., and f)(1)a.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)e.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the OC emissions from this air contaminant source since the calculated annual emission rate for OC is less than 10.0 tons/year taking into account the voluntary limit of 4.5 tons/year based upon a rolling, 12-month summation under OAC rule 3745-31-05(D) and scrubber control.

e. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber,

the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No.1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No.2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month for P047:

a. the name and identification of each product;

b. number of batches;

c. number of days in operation;

d. number of hours in operation;

e. the calculated amount of OC emissions for the month using the formula provided below:

(lbs OC emissions/batch) x (number of batches/month) x (1-0.95 control efficiency) = lbs OC emissions/month

also, the permittee shall keep a rolling, 12-month summation of the monthly emissions.

f. the calculated amount of OC emissions for each day [e divided by c]; and

g. the average hourly OC emissions rate, in lbs/hr (average) [e divided by d].

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

*A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

e) Reporting Requirements

(1) 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. 4.5 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October

(covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
OC emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day.

Applicable Compliance Method:
Compliance with these emission limitations may be demonstrated based upon the records required pursuant to d)(6) The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

If required by CDAQ or Ohio EPA, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
4.5 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(6).

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P047 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P047, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval

prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the Ohio EPA's "Toxic Air Contaminant Statute," ORC 3704.03(F) was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1.0 ton per year of each toxic pollutant that is listed under OAC rule 3745-114-01(A).

22. P048, Reactor No. 23 Process Line

Operations, Property and/or Equipment Description:

Reactor No. 23 Process Line - 200 gallon reactor, hot oil unit, crystallizer, and filter press controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)b., b)(2)b., d)(7), e)(1), f)(1)b. and f)(1)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-21-07(G)(2) (PTI #13-04695 issued 7/17/2007)	Organic compound (OC) emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day. See b)(2)a. below.
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V and MACT	OC emissions shall not exceed 4.5 tons/year based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)d. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)a., d)(6)c., d)(6)d., d)(6)f., d)(6)g., and f)(1)a.

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)e.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for this emissions unit plus the annual HAP contribution from all other emissions units at this facility (listed in b)(2)c. below).

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the OC emissions from this air contaminant source since the calculated annual emission rate for OC is less than 10.0 tons/year taking into account the voluntary limit of 4.5 tons/year based upon a rolling, 12-month summation under OAC rule 3745-31-05(D) and scrubber control.

e. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature (for scrubber No. 2) and the pH of the scrubber liquor during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the scrubber,

the scrubber water flow rate, the scrubber liquor temperature, and the pH of the scrubber liquor of the scrubber on a daily basis.

(2) For the scrubber(s) in operation, whenever the monitored value for the pressure drop across the scrubber, the scrubber water flow rate, the scrubber liquor temperature and the pH of the scrubber liquor deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

(4) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The acceptable ranges from the manufacturer's specifications for scrubber no. 2 are:

i. the scrubber flow rate in Tower No.1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No.2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more than 95 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F;

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more than 90 degrees Fahrenheit; unless the ambient conditions are above 90 degrees F.

(5) These ranges and values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ). The permittee may request revisions to the ranges and values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges and values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall collect and record the following information each month for P048:

a. the name and identification of each product;

b. number of batches;

c. number of days in operation;

d. number of hours in operation;

e. the calculated amount of OC emissions for the month using the formula provided below:

(lbs OC emissions/batch) x (number of batches/month) x (1-0.95 control efficiency) = lbs OC emissions/month

also, the permittee shall keep a rolling, 12-month summation of the monthly emissions.

f. the calculated amount of OC emissions for each day [e divided by c]; and

g. the average hourly OC emissions rate, in lbs/hr (average) [e divided by d].

(7) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the name and identification number of each HAP containing material employed;

b. the total individual and combined HAPs material usage and emissions, in pounds per month; and

c. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons.

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

*A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your CDAQ contact. This information does not have to be kept on an individual emissions unit basis.

e) Reporting Requirements

(1) 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. 4.5 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October

(covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
OC emissions shall not exceed 8.00 lbs/hr and 40.0 lbs/day.

Applicable Compliance Method:
Compliance with these emission limitations may be demonstrated based upon the records required pursuant to d)(6) The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

If required by CDAQ or Ohio EPA, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 25 or 25A, as applicable, of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
4.5 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(6).

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(7).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P048 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P048, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality (Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval

prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the Ohio EPA's "Toxic Air Contaminant Statute," ORC 3704.03(F) was not necessary because the increase in emissions due to the modification(s) to the emissions unit was less than 1.0 ton per year of each toxic pollutant that is listed under OAC rule 3745-114-01(A).

23. P049, Tumbler No. 7

Operations, Property and/or Equipment Description:

Tumbler No. 7 controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)b., c)(4), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-04434 issued 5/17/2005)	0.057 lb/hr OC emissions The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(G)(2)	Exempt, see c)(1) below. See b)(2)a. below.
c.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b. and c)(1).

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) This emissions unit shall not employ organic liquids which are photochemically reatcive materials, as defined in OAC rule 3745-21-01(C)(5).

(2) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(3) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2) and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(4) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for tumbler P049:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in section f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.25 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.057 lb/hr OC emissions

Applicable Compliance Method:
Compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method.

b. Emission Limitation:
0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in section d)(2), emission factors developed by the company or the most recent emissions test and the following equation:

lbs OC emissions/batch(emission factor(s) of 5.22515 lbs/batch for total emissions, fugitive and point) x number of batches/month x (1 - overall capture efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors developed by the company were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:

Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P049 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P049, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality

(Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

24. P050, Tumbler No. 8

Operations, Property and/or Equipment Description:

Tumbler No. 8 controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)b., c)(4), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-04484 issued 5/17/2005)	0.057 lb/hr OC emissions The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(G)(2)	Exempt, see c)(1) below. See b)(2)a. below.
c.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b. and c)(1).

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) This emissions unit shall not employ organic liquids which are photochemically reatcive materials, as defined in OAC rule 3745-21-01(C)(5).

(2) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(3) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(4) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for tumbler P050:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in section f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.25 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.057 lb/hr OC emissions

Applicable Compliance Method:
Compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method

b. Emission Limitation:
0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in section d)(2), emission factors developed by the company or the most recent emissions test and the following equation:

lbs OC emissions/batch(emission factor(s) of 5.22515 lbs/batch for total emissions, fugitive and point) x number of batches/month x (1 - overall capture efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors developed by the company were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:

Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P050 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P050, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality

(Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.

25. P051, Tumbler No. 10

Operations, Property and/or Equipment Description:

Tumbler No. 10 controlled by scrubber nos. 2 and/or 5

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. None.

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

a. b)(1)c., b)(2)b., c)(4), d)(4), e)(1), f)(1)c. and f)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #13-04484 issued 5/17/2005)	0.057 lb/hr OC emissions The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
b.	OAC rule 3745-21-07(G)(2)	Exempt, see c)(1) below. See b)(2)a. below.
c.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. below.

(2) Additional Terms and Conditions

a. On February 8, 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. The following terms and conditions shall become void after U.S. approves the rule revision:

b)(1)b. and c)(1).

The control requirements from the amended 21-07 rule and the associated operational restrictions, monitoring, record keeping, and reporting requirements contained in this permit shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following term(s) shall become federally enforceable after U.S. EPA approves the rule revision:

b)(2)d.

b. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility (listed in b)(2)c. below) shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

c. The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, B001, B002, F001, Z001, and Z002.

d. The requirements of OAC rule 3745-21-07(M)(3)(a) do not apply to this emissions unit because the uncontrolled potential to emit organic compounds is less than 40 pounds/day in accordance with OAC rule 3745-21-07(M)(3)(c)(ii).

c) Operational Restrictions

(1) This emissions unit shall not employ organic liquids which are photochemically reatcive materials, as defined in OAC rule 3745-21-01(C)(5).

(2) Scrubber Nos. 2 and/or 5, connected through a common, closed loop ductwork and damper system, shall be operating at all times while the emissions unit is in operation.

(3) The acceptable ranges for the pressure drop across the scrubber, the flow rate range for the scrubber, the scrubber liquor temperature (for scrubber No. 2), and the pH range for the scrubber shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

a. The acceptable ranges from the manufacturer's specifications for scrubber no. 5 are 8.0 to 12.0 inches of water for the pressure drop across the scrubber, 90-110 gallons per minute for the scrubber flow rate range, and 6.0 to 9.5 for the pH range of the scrubber.

b. The permittee shall operate scrubber No. 2 with the following restrictions:

i. the scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute;

ii. the scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute;

iii. the pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

iv. the pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation;

v. the pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0;

vi. the temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit; and

vii. the temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

(4) The maximum annual HAPs material usage for the list of emissions units referenced in b)(2)c. shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For the scrubber(s) in operation, the permittee shall properly operate and maintain equipment to continuously monitor the scrubber's static pressure, the scrubber's water flow rate and the scrubber's liquor temperature (for scrubber No. 2) while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

a. The permittee shall collect and record the following information each day for scrubber No. 5:

i. the scrubber water flow rate; and

ii. the pressure drop across the scrubber.

b. The permittee shall collect and record the following information each day for scrubber No. 2:

i. the scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water;

ii. the scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water;

iii. the pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift basis;

iv. the pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis;

v. the temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis;

vi. the temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis; and

vii. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) and/or scrubber No. 5 while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on once/shift basis; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall collect and record the following information each month for tumbler P051:

a. the name and identification of each product;

b. number of batches;

c. the calculated amount of OC emissions for the month using the formula provided in section f)(1)b.; and

d. the calculated rolling, 12-month OC emissions for the previous 12 months.

(4) The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in b)(2)c.:

a. the total individual and combined HAPs material usage and emissions, in pounds per month; and

b. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar month.

e) Reporting Requirements

(1) 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. 0.25 tons OC/year as a rolling, 12-month summation

ii. 9.9 tons/year for any individual HAP

iii. 24.9 tons/year for any combination of HAPs

iv. the static pressure across scrubber Nos. 2 and/or 5

v. the water flow rate for scrubber Nos. 2 and/or 5

vi. the liquor temperature for scrubber No. 2

vii. the liquor pH for scrubber Nos. 2 and/or 5

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 (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:
0.057 lb/hr OC emissions

Applicable Compliance Method:
Compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method

b. Emission Limitation:
0.25 tpy OC emissions based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:
Compliance shall be based on recordkeeping in section d)(2), emission factors developed by the company or the most recent emissions test and the following equation:

lbs OC emissions/batch(emission factor(s) of 5.22515 lbs/batch for total emissions, fugitive and point) x number of batches/month x (1 - overall capture efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors developed by the company were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:

Compliance shall be determined based upon the record keeping specified in d).

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in b)(2)c., as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted within 3 months of the expiration of the permit.

b. Emissions units P005, P006, P007, P008, P011, P012, P013, P014, P016, P017, P019, P024, P027, P028, P029, P030, P031, P033, P044, P047, P048, P049, P050, P051, and T004 are batch operations venting to common control devices (Scrubber Nos. 2 and/or 5). Since the individual OC, HCl, and Methanol emission rates from P051 cannot be determined due to multiple emissions units sharing common control devices, the individual allowable emission limitation from each emissions unit operating during the emission test shall be summed and compared with the test(s) results for the emissions units controlled by Scrubber Nos. 2 and/or 5 in order to determine compliance with the pound per hour limitation for P051, provided that all emissions units operating during the emission test controlled by Scrubber Nos. 2 and/or 5 are operating at or near their maximum capacities and are testing for worst case emissions during the batch process while using their worst case product.

"Batch operation" as defined in 40 CFR 63.101 is "a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operations includes noncontinuous operations in which equipment is fed intermittently or discontinuously. Additional raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started." For purposes of this permit, this definition is being used to clarify this batch operation process.

c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for OC, HCl, and Methanol emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 25, 25A, or 25B for OC, Method 308 for Methanol, and Method 26 or 26A for HCl, as appropriate.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland Division of Air Quality

(Cleveland DAQ). The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions units and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.