



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

3/13/2013

Mr. Thomas Edmunds  
MCGEAN-ROHCO, INC.  
2910 Harvard Ave  
Newburgh Heights, OH 44105-3010

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318365229  
Permit Number: P0112874  
Permit Type: Renewal  
County: Cuyahoga

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
77 South High Street, 17th Floor  
Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: CDAQ



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
MCGEAN-ROHCO, INC.**

Facility ID:	1318365229
Permit Number:	P0112874
Permit Type:	Renewal
Issued:	3/13/2013
Effective:	3/13/2013
Expiration:	6/6/2021





**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
MCGEAN-ROHCO, INC.**

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**Final Permit-to-Install and Operate**  
MCGEAN-ROHCO, INC.  
**Permit Number:** P0112874  
**Facility ID:** 1318365229  
**Effective Date:** 3/13/2013

## Authorization

Facility ID: 1318365229  
Application Number(s): A0046786  
Permit Number: P0112874  
Permit Description: PTIO renewal permit for emissions unit P039 which is a multiple purpose 1000-gallon reactor system R7 used in the Brightener department involving the plating chemicals manufacturing process. The reactor is vented to a common wet scrubber. PTI 13-04683 was issued on 7/5/2007.  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 3/13/2013  
Effective Date: 3/13/2013  
Expiration Date: 6/6/2021  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

MCGEAN-ROHCO, INC.  
2910 HARVARD AVE.  
Newburgh Heights, OH 44105-3010

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

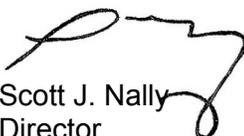
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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

  
Scott J. Nally  
Director



**Final Permit-to-Install and Operate**  
MCGEAN-ROHCO, INC.  
**Permit Number:** P0112874  
**Facility ID:** 1318365229  
**Effective Date:** 3/13/2013

## Authorization (continued)

Permit Number: P0112874

Permit Description: PTIO renewal permit for emissions unit P039 which is a multiple purpose 1000-gallon reactor system R7 used in the Brightener department involving the plating chemicals manufacturing process. The reactor is vented to a common wet scrubber. PTI 13-04683 was issued on 7/5/2007.

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

<b>Emissions Unit ID:</b>	<b>P039</b>
Company Equipment ID:	R7
Superseded Permit Number:	13-04683
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install and Operate**  
MCGEAN-ROHCO, INC.  
**Permit Number:** P0112874  
**Facility ID:** 1318365229  
**Effective Date:** 3/13/2013

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



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

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

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

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

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

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

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

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

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

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

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

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

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

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

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

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

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

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

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

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

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

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

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

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



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

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the 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<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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



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

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

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

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

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

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



**Final Permit-to-Install and Operate**  
MCGEAN-ROHCO, INC.  
**Permit Number:** P0112874  
**Facility ID:** 1318365229  
**Effective Date:** 3/13/2013

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



**Final Permit-to-Install and Operate**

MCGEAN-ROHCO, INC.

**Permit Number:** P0112874

**Facility ID:** 1318365229

**Effective Date:** 3/13/2013

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.



**Final Permit-to-Install and Operate**  
MCGEAN-ROHCO, INC.  
**Permit Number:** P0112874  
**Facility ID:** 1318365229  
**Effective Date:** 3/13/2013

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



**1. P039, R7, Multiple purpose 1000 gallon reactor system vented to a common wet scrubber**

**Operations, Property and/or Equipment Description:**

Multiple purpose 1000 gallon reactor system controlled by a wet scrubber

- 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. g)(1), g)(2).
  - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - a. None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	0.1 pound OC per hour.  The requirements of this rule include compliance with OAC rule 3745-17-07(A) and OAC rule 3745-17-11(A).  See b)(2)a. below.
b.	ORC 3704.03(T)(4) PTI 13-04683 issued 7/5/2007	Less than 10 tons per year for PE and OC each, see b)(2)b. below.
c.	OAC rule 3745-17-07(A)(1)(a)	Visible particulate emissions from any stack servicing this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-11(A)(2)	Particulate emissions (PE) from wet scrubber (packed tower scrubber) stack shall not exceed 0.817 lb PE/hour.
e.	OAC rule 3745-21-07(M)(3)(c)(ii)	See b)(2)c. below.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.  
  
 The Best Available (BAT) Requirements under OAC rule 3745-31-05(A)(3) do not apply to the air contaminants PE and OC from this emissions unit since the uncontrolled potential to emit PE and OC emissions is less than ten tons per year. And the potential to emit from OAC rule 3745-17-11(A)(2) is also less than ten tons per year.
- c. The requirement of OAC rules 3745-21-07(M)(3)(a) and (M)(3)(b) do not apply to this emissions unit because the uncontrolled potential to emit for OC emissions is less than 40 pounds per day.
- d. This emissions unit operates using a batch cycle. The average amount of time for one batch cycle is 720 minutes or 12 hours. The batch cycle varies from approximately one hour to 150 hours.
- e. The controlled PE and OC emission rates at potential to emit are less than rule limits; therefore, no monitoring, record keeping or reporting are needed for these limits.



c) Operational Restrictions

- (1) The permittee shall operate a wet scrubber, whenever this air emissions unit is generating particulate emissions and/or organic compounds emissions, while the emissions unit is in operation. If acidic emissions are generated while the air emissions unit is in operation, alkaline (having a pH of more than 7) scrubber liquor shall be used to control acidic emissions. If alkaline emissions are generated while the air emissions unit is in operation, acidic scrubber liquor shall be used to control alkaline emissions.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate, and maintain equipment to continuously monitor and record the pH of the recirculating 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 pH of the recirculating scrubber liquor on hourly basis, if needed as a backup.

Whenever the monitored value for the pH of the recirculating 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.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the 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.

The acceptable range for the pH of the recirculating scrubber liquor is between 0 and 7 (including the end values 0 and 7) when alkaline air pollutants are being controlled; and the acceptable range for the pH of the recirculating scrubber liquor is between 7 and 12 (including the end values 7 and 12) when acidic air pollutants are being controlled.

These ranges are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by CDAQ. The permittee may request revisions to the ranges based upon information obtained during future operations of this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.



e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the CDAQ 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. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the CDAQ that identify the following information concerning the operation of the control equipment during the operation of this emission unit:
  - a. each period of time when the pH of the liquor was outside the range specified by the manufacturer;
  - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
  - c. an identification of each incident of each deviation described in (a) where prompt corrective action, that would bring the pH into compliance with acceptable range, was determined to be necessary and was not taken; and
  - d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitation:

Visible PE from any stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required by Ohio EPA or CDAQ, compliance shall be determined by visible emissions evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using methods and procedures specified in U.S. EPA Reference Method 9.
  - b. Emissions Limitation:

Particulate Emissions (PE) from wet scrubber (packed tower scrubber) stack shall not exceed 0.817 lb PE/hr.



Applicable Compliance Method:

The emission limitation is based on the rule. The potential to emit is less than the rule limits; therefore, no recordkeeping and/or reporting requirements are necessary to ensure compliance with this limitation.

R = Ratio of non-OC and non-water raw material to total OC raw material

R = Ratio of uncontrolled PE to uncontrolled OC emissions

$$R = \frac{(\text{lbs of non-OC} + \text{lbs of non-water}) \text{raw material}}{\text{lbs of total OC raw material}}$$

$$R = \frac{J \text{ lbs of uncontrolled PE}}{\text{lb of uncontrolled OC emissions}} = J \frac{\text{lbs PE}}{\text{lb OC}}$$

UncontPE is pounds of uncontrolled PE per hour, lbs PE/hr

UncontOC is pounds of uncontrolled OC emissions per hour, lbs OC/hr

$$\text{UncontPE} = (R) * (\text{UncontOC} \frac{\text{lbs OC}}{\text{hr}})$$

PECE = Control Efficiency of Wet Scrubber on PE, %

The estimated PE control efficiency is 90% from the scrubber manufacturer.

ActPE is controlled PE or actual PE, lbs PE/hr

$$\text{ActPE} = \text{UncontPE} * \left( \frac{100 - \text{PECE}\%}{100} \right)$$

Sample Calculation of R

$$R = \frac{237,092 \text{ lbs of non-OC and non-water raw material}}{196,458 \text{ lbs of OC raw material}}$$

$$R = \frac{1.21 \text{ lbs of uncontrolled PE}}{\text{lb of uncontrolled OC emissions}} = 1.21 \frac{\text{lb PE}}{\text{lb OC}}$$

Sample Calculation of UncontPE, lbs PE/hr

$$\text{UncontPE} = \left( 1.21 \frac{\text{lb PE}}{\text{lb OC}} \right) * \left( 0.839 \frac{\text{lb UncontOC}}{\text{hr}} \right)$$

$$\text{UncontPE} = 1.02 \frac{\text{lbs PE}}{\text{hr}}$$

Sample Calculation of actual PE, Act PE, lbs PE/hr

$$\text{ActPE} = 1.02 \frac{\text{lbs PE}}{\text{hr}} * \frac{100 - \text{PECE}\%}{100}$$

$$\text{ActPE} = 0.102 \frac{\text{lb PE}}{\text{hr}}$$



Where:

J = pounds of uncontrolled particulate emissions per pound of uncontrolled OC emissions

PECE = particulate emissions control efficiency in percent

c. Emission Limitations:

OC emissions shall not exceed 0.1 lb OC/hr.

Applicable Compliance Method:

No recordkeeping and/or reporting requirements are necessary to ensure compliance with this emissions limitation.

OC(n) = nth organic compound

OC1 = first organic compound when n = 1

M = vapor pressure of OC1

ParPress(n) = nth partial pressure of OC(n)

ParPress1 = Partial Pressure (dimensionless ratio) of organic compound 1 (OC1), psia (pounds per square inch), when n= 1

$$ParPress1 = \frac{M \text{ psia of OC1}}{14.7 \text{ psia atmosphere}} \leq 1.0$$

UncontOC(n) = nth uncontrolled OC emissions

UncontOC1 = Uncontrolled OC emissions of OC1, lbs OC1/hr, when n = 1

$$UncontOC1 = \left( \text{Material Usage} \frac{\text{lbs}}{\text{hr}} \text{OC1} \right) * (ParPress1)$$

OCCE = Control Efficiency of Wet Scrubber on OC, %

The estimated OC control efficiency is 95% from the scrubber manufacturer.

ActOC(n) = nth ActOC

ActOC1 is controlled OC1 emissions or actual OC1 emissions, lbs OC1/hr, when n = 1

$$ActOC1 = \left( UncontOC1 \frac{\text{lbs OC1}}{\text{hr}} \right) * \left( \frac{100 - OCCE\%}{100} \right)$$

Sample emission calculation of dimethylaminopropylamine

OC1 = dimethylaminopropylamine



$$ParPress1 = \frac{0.12 \text{ psia}}{14.7 \text{ psia}} = 0.00864$$

Material usage of OC1 = 10 lbs/hr

$$UncontOC1 = \left( \frac{10 \text{ lbs}}{\text{hr}} OC \right) * (0.00864) = 0.0864 \frac{\text{lb OC}}{\text{hr}}$$

$$ActOC1 = \left( \frac{0.0864 \text{ lbs OC}}{\text{hr}} \right) * \left( \frac{100 - 95\%}{100} \right) = 0.00432 \frac{\text{lb OC}}{\text{hr}}$$

OC2 = isopropanol

$$ParPress1 = \frac{0.64 \text{ psia}}{14.7 \text{ psia}} = 0.00435$$

Material usage of OC2 = 5 lbs/hr

$$UncontOC2 = \left( \frac{5 \text{ lbs}}{\text{hr}} OC \right) * (0.0435) = 0.218 \frac{\text{lb OC}}{\text{hr}}$$

$$ActOC2 = \left( \frac{0.218 \text{ lbs OC}}{\text{hr}} \right) * \left( \frac{100 - 95\%}{100} \right) = 0.0109 \frac{\text{lb OC}}{\text{hr}}$$

d. Emission Limitations:

Less than 10 tons per year for PE and OC each.

Applicable Compliance Method:

Multiplying the PE and OC hourly emission rates by 8760 hours of operation per year and dividing by 2000 pounds per ton results in potential emissions that are less than 10 tons per year for particulate and OC emissions. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with pounds per hour limitations for PE and OC.

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install and operate 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 toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install and operate.
- (2) The actual mass emissions of ammonia shall be determined by using the following calculation for each of the products:



$$\frac{U \text{ lbs of uncontrolled } NH_3 \text{ emissions}}{\text{ton of batch material of } Y \text{ product}} * \frac{\text{tons of batch material of } Y \text{ product}}{\text{batch of } Y \text{ product}} =$$

$$\frac{W \text{ lbs of uncontrolled } NH_3 \text{ emissions}}{\text{batch of } Y \text{ product}}$$

$$\frac{W \text{ lbs of uncontrolled } NH_3 \text{ emissions}}{\text{batch of } Y \text{ product}} * \frac{(100 - \% \text{ Control Efficiency})}{100} =$$

$$\frac{Z \text{ lbs of actual } NH_3 \text{ emissions}}{\text{batch/product}}$$

Summation of actual ammonia emissions in pounds of ammonia per month for all products.

Summation of actual ammonia emissions in pounds of ammonia per year for all products.

The actual annual ammonia emissions in pounds per year divided by 2,000 pounds per ton to give actual ammonia emissions in tons per year.

Where:

U = pounds of uncontrolled ammonia emissions per ton of material generated by a particular product;

W = pounds uncontrolled ammonia emissions per batch of a particular product;

Y = particular product;

Z = pounds of actual ammonia emissions per batch of a particular product; and

Control Efficiency = actual or manufacturer's estimate of control efficiency of the scrubber.