



Environmental Protection Agency

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

12/14/2011

Mr. James Krimmel
ZACLON LLC
2981 Independence Road
Cleveland, OH 44115

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 1318000151
Permit Number: P0094215
Permit Type: Renewal
County: Cuyahoga

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
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 Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

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

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

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPCWeb page, www.epa.ohio.gov/dapc, by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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

Cc: CDAQ



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
ZACLON LLC**

Facility ID:	1318000151
Permit Number:	P0094215
Permit Type:	Renewal
Issued:	12/14/2011
Effective:	12/14/2011
Expiration:	3/2/2019



Division of Air Pollution Control
Permit-to-Install and Operate
for
ZACLON LLC

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Authorization

Facility ID: 1318000151
Application Number(s): A0025701, A0043091
Permit Number: P0094215
Permit Description: PTIO Renewal permit for a rubber accelerator with two condensers (P002), quinlon/volan reactor with condenser and two scrubbers (P003), and a zinc chloride process with an impingement demister (P010).
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 12/14/2011
Effective Date: 12/14/2011
Expiration Date: 3/2/2019
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

ZACLON LLC
2981 INDEPENDENCE RD
CLEVELAND, OH 44115

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

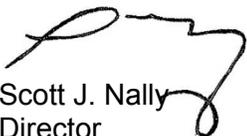
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erievue 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



Authorization (continued)

Permit Number: P0094215

Permit Description: PTIO Renewal permit for a rubber accelerator with two condensers (P002), quinlon/volan reactor with condenser and two scrubbers (P003), and a zinc chloride process with an impingement demister (P010).

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

Emissions Unit ID:	P002
Company Equipment ID:	Accelerator Mfg.
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P003
Company Equipment ID:	quilon/volan manufacture
Superseded Permit Number:	P0051788
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P010
Company Equipment ID:	Zinc Chloride Mfg.
Superseded Permit Number:	13-1154
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

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

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

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



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

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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

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

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the 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 submitting¹ 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.

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

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

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

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

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

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

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

B. Facility-Wide Terms and Conditions

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.

C. Emissions Unit Terms and Conditions



1. P002, Accelerator Mfg.

Operations, Property and/or Equipment Description:

rubber accelerator with two condensers

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. 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 3745-21-07(M)(3)(d)	See b)(2)a. and b)(2)b. below.

(2) Additional Terms and Conditions

a. All of the VOC emissions from the emissions unit listed above shall be vented to two condensers that shall meet the operations, monitoring, and recordkeeping requirements of this permit, when the emissions unit is in operation. The overall control efficiency for OC emissions shall be greater than 70 percent, by weight.

b. The permittee shall submit notification to Ohio EPA to include this emissions unit in OAC rule 3745-21-07(M)(3)(d).

c) Operational Restrictions

(1) The average exit temperature of the water cooled shell and tube condensers, for any 3-hour block of time, shall not be more than 6 degrees Fahrenheit above the normal operating temperature of 60 degrees Fahrenheit.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information on a monthly basis:

- a. the total amount of all materials processed, in pounds per month;
- b. the monthly VOC emission rate, in pounds per month calculated as follows:

$$M * EF * (1 - CE)$$

Where:

M = lb material processed/month

EF = 1.24% non-liquid material losses based on extensive facility yield calculations

CE = 70% condenser control efficiency due to heavier organics processed.

(2) The permittee shall maintain records of the yearly VOC emissions for all materials employed, in tons per year, determined by summing monthly emissions from d)(1)b. above.

(3) The permittee shall operate and maintain an inline thermometer which measures the exit temperature of the cooling liquid in each condenser when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The accuracy for each thermometer shall be guaranteed by the manufacturer to be within +/- 1 percent of the temperature being measured or +/- 5 degrees Fahrenheit, whichever is greater. The thermometer shall be 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 the emissions unit is in operation:

- a. all 3-hour blocks of time, when the emissions unit controlled by the condensers was in operation, during which the average exit temperature of the cooling liquid in the condensers was more than 6 degrees Fahrenheit above the normal operating temperature of 60 °F; and
- b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emission unit.

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 Cleveland Division of Air Quality (Cleveland DAQ).

(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.

- (3) The permittee shall identify in the annual PER the following information concerning the operations of the condensers during the 12-month reporting period for this emissions unit:
- a. each period of time (start time and date, and end time and date) when the average temperature of the cooling water exiting from each condenser was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the condensers;
 - c. each incident of deviation described in “a” or “b” (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature of the cooling water from each condenser into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
- 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. Emission Limitation:
The overall control efficiency for the VOC emissions shall be greater than 70 percent by weight.
Applicable Compliance Method:
If required, compliance shall be determined by performing a stack test using U.S. EPA Methods 1-4, and Method 25 of 40 CFR Part 60, Appendix A.
- g) Miscellaneous Requirements
- (1) Emission unit P002 was installed in 1928 and therefore no PTI issued previously and no BAT limits are required.



2. P003, Quilon/Volan Manufacturing

Operations, Property and/or Equipment Description:

quilon/volan chrome complex manufacture with reflux condenser and two packed bed scrubbers

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. 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 3745-17-11 Table I	PE as HCl emissions shall not exceed 2.4 lbs/hr. See b)(2)a. and b)(2)b. below.
b.	OAC rule 3745-17-07(A)	See b)(2)c. and b)(2)d. below.
c.	OAC rule 3745-18-06(C)	See b)(2)e. below.

(2) Additional Terms and Conditions

a. The emissions from this emissions unit shall be vented to two wet scrubbers and a condenser at all times the emissions unit is in operation and shall meet the operational, monitoring, and record keeping requirements of this permit.

b. The owner or operator shall operate the control devices in accordance with the manufacturer's recommendations, instructions, or operating manuals with any modifications deemed necessary by the owner or operator.

- c. Visible particulate emissions shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
- d. The presence of uncombined water vapor in the scrubber plume does not constitute visible particulate emissions.
- e. OAC rule 3745-18-06(E) does not apply to process weight rates less than 1,000 lbs/hr.

c) Operational Restrictions

- (1) Each reactor shall be vented to the two 150 acfm packed tower scrubbers to control all emissions at all times using clean city water. A sodium hydroxide solution shall be added when necessary to maintain a pH of no less than three (3) to control the acid mist and sulfur dioxide emissions.
- (2) The permittee shall operate and maintain the scrubber systems according to good engineering practices including but not limited to sufficient water or scrubbing solutions flow rate, and sufficient air flow rate to achieve the emission removal efficiencies required in this permit.
- (3) The average exit temperature of the cooling liquid in the condenser, for any 3-hour block of time, shall not be more than 6 degrees Fahrenheit above the normal operating temperature of 60 degrees Fahrenheit.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible particulate emissions incident; and
 - c. any corrective actions taken to eliminate the visible particulate emissions.
- (2) The permittee shall record any time the emergency vent ruptures a disc on the IPA condenser and the duration of the malfunction while the emission unit is running.
- (3) The permittee shall collect and record the following information on a monthly basis:
 - a. the total amount of hydrochloric acid processed, in pounds per month;
 - b. the total operating hours for the emissions unit, in hours per month; and
 - c. the average hourly PE emission rate, in pounds per hour calculated using the formula from f)(1)a..

- (4) The permittee shall properly install, operate, and maintain a temperature monitor which measures the exit temperature of the cooling liquid in the condenser when the emissions units is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day the emissions unit is in operation:
- a. all 3-hour blocks of time, when the emissions unit controlled by the condenser was in operation, during which the average exit temperature of the cooling liquid in the condenser was more than 6 degrees Fahrenheit above the normal operating temperature of 60 °F; and
 - b. a log of the downtime for the capture (collection) system, condenser, and monitoring equipment when the associated emissions unit was in operation.
- (5) The permittee shall operate the scrubbers at all times in accordance with the following parameters:
- a. shall maintain a water flow rate in accordance with the scrubbers manufacturer's recommendation (a gallon per minute flow rate will be established after the meter is installed and sufficient data collected to determine a rate that is representative of normal operating conditions); and
 - b. shall maintain an alkalinity of pH of no less than three (3) in the scrubbing solution to control acidic emissions.
- (6) The permittee shall properly install operate and maintain equipment to monitor the scrubber liquid flow rate (in gallons per minute), and the scrubber liquid pH during operation of this emissions unit, including periods of startup and shutdown.
- (7) The permittee shall record the pH and flow rate on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;

- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, 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. a description of the corrective action;
- b. the date the corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the flow rate, and pH readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

These limits/ranges for the liquid flow rate, and pH are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland DAQ. The permittee may request revisions to the permitted limit/range for the liquid flow rate, or pH based upon information obtained during future performance tests that demonstrate compliance with the allowable PE emission rate for this emissions unit. In addition, approved revisions to the range or limit 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) 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.
- (2) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible particulate emissions in d)(1) above:

- a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - b. any corrective actions taken to eliminate the visible particulate emissions.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the wet scrubbers during the 12-month reporting period for this emission unit:
- a. each period of time (start time and date, and end time and date) when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
 - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the liquid flow rate, and/or scrubber liquid pH into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
- (4) 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 Cleveland DAQ.
- 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. Emission limitation:
2.4 pounds PE per hour as HCl (monthly average)
Applicable Compliance Method:
Compliance shall be based on the record keeping requirements as specified in d)(1) and the following equation:
$$\text{lb/hr} = M \times \text{EF} \times (1 - \text{CE}) \div \text{hrs/month}$$

M = amount of hydrochloric acid processed in pounds per month

EF = 5% of acid is not incorporated into product per facility calculations.

CE = acid scrubber control efficiency rated at 90%

b. Emission Limitation

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9 of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) Condenser for isopropanol reuse involves a closed system with an emergency vent. All instances when the emergency vent must be manually closed shall be recorded and reported in the yearly PER.
- (2) Emission unit P003 was installed in 1954 and therefore no PTI issued previously and no BAT limits are required.



3. P010, Zinc Chloride Mfg.

Operations, Property and/or Equipment Description:

zinc chloride manufacturer with impingement demister

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. 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) PTI 13-1154 dated 12/15/1983	OC emissions shall not exceed 40 TPY
b.	OAC rule 3745-21-07(M)	See b)(2)a. below.
c.	OAC rule 3745-17-07(A)(1)(b)	See b)(2)b. below.
d.	OAC rule 3745-17-11 Table 1	PE emissions shall be not exceed 10.4 lbs/hr. See b)(2)c. below.

(2) Additional Terms and Conditions

a. OAC rule 3745-21-07(M) does not apply to this emission unit. The control device is for the particulate emissions, not the OC emissions.

b. Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

- c. Emissions shall be vented through an impingement demister at all times when the unit is in operation.
 - d. The presence of uncombined water vapor in the scrubber plume does not constitute visible particulate emissions.
- c) Operational Restrictions
 - (1) None.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall perform monthly sampling of the crude zinc solution on an “as received” basis, or obtain an analysis from the source, to determine the amount of methanol and other organic material in the solution.
 - (2) The permittee shall collect and record the following information on a monthly basis:
 - a. the total amount of crude zinc solution (on a 100% pound basis) processed (boiled), in pounds per month;
 - b. the percent by weight OC content of solution on a monthly average basis;
 - c. the total operating hours for the emissions unit, in hours per month;
 - d. the total OC emission rate for the zinc solution processed, in pounds per month, (a * b); and
 - e. the total PE emission rate for all materials employed, in pounds per month, calculated using the formula from f)(1)b.; and
 - f. the average hourly PE emission rate, in pounds per hour (e/c).
 - (3) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the total duration of any visible particulate emissions incident; and
 - c. any corrective actions taken to eliminate the visible particulate emissions.
- e) Reporting Requirements
 - (1) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible particulate emissions in d)(3) above:



- a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - b. any corrective actions taken to eliminate the visible particulate emissions.
- (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.
- (3) 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.
- 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. Emission Limitation:
OC emissions shall not exceed 40 TPY

Applicable Compliance Method:
Compliance with the annual emission limitation shall be demonstrated by summing the monthly OC emissions for the year in d)(2) of these terms and conditions and dividing by 2000 lbs/ton.
 - b. Emission Limitation:
PE emissions shall not exceed 10.4 lbs/hr as a monthly average

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be demonstrated based upon the record keeping requirements in d)(2) and the use of the following formula:

$$E \text{ (lbs PE/hr)} = M \times \text{ton}/2000 \text{ lbs} \times EF \times (1-CE) \div \text{hrs of operation/month}$$

Where:

M = the amount of crude zinc solution boiled (on a 100% pound basis) in pounds per month,

EF = emission factor in AP-42 Section 8.6 background report (1993) of 0.9 kg PE/ton (1.98 lb PE/ton) without scrubber.

CE = 80% control efficiency of the impingement demister

c. Emission Limitation

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9 of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

(1) None.