



Environmental Protection Agency

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

12/1/2011

GLEN STRASSHOFER  
TREMCO INC. - MAMECO DIVISION  
4475 EAST 175TH ST.  
CLEVELAND, OH 44128

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

Facility ID: 1318002813  
Permit Number: P0108271  
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
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, The Plain Dealer. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Issued Air Pollution Control Permits" link. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall Permit Review/Development Section Ohio EPA, DAPC 122 South Front Street Columbus, Ohio 43215	and	Cleveland Division of Air Quality 2nd Floor 75 Erieview Plaza Cleveland, OH 44114
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Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297.

Sincerely,

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

Cc: U.S. EPA Region 5 *Via E-Mail Notification*  
CDAQ; Pennsylvania; Canada





## Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination (FEPTIO to avoid Title V)

Netting Determination

2. Source Description:

This facility manufactures sealant and weatherproofing materials. The emissions units that are contained in this permit are P027 and P028 which are both 1100 gallon blending vessels equipped with a powder dryer. The standard batch size for each is 900 gallons. P027 processes a maximum of 1095 batches per year and P028 processes a maximum of 730 batches per year.

3. Facility Emissions and Attainment Status:

Tremco has the potential to emit HAP emissions greater than the Title V thresholds of 10 tons/year for a single HAP and 25 tons/year for combined HAPs. The Fee Emission Report for 2010 shows the total actual emissions were 8.8 tons/year for the facility. Cuyahoga County is currently designated as non-attainment for PM<sub>2.5</sub> and partial non-attainment for lead. The county is in attainment for all of the other criteria pollutants.

4. Source Emissions:

The emissions units included in this renewal permit are P027 and P028, which were previously permitted as P010 in PTI 13-2917 issued on September 27, 1995. These EUs were separated because they can run independently of each other. P027 and P028 are limited at potential for VOCs and the particulate emissions were determined using a mass balance calculation. Tremco has accepted restrictions to limit facility-wide HAP emissions to 9.5 tons/year for each single HAP and 24.5 tons/year for total combined HAPs each as a rolling, 12-month summation of emissions. The permit contains monthly record keeping of actual HAP emissions determined as outlined in the permit, along with the rolling, 12-month summation of HAP emissions.

5. Conclusion:

This permit contains facility-wide rolling, 12-month restrictions on actual HAP emissions for both single and combined HAPs. Monthly record keeping of actual HAP is used to demonstrate compliance. Therefore, this facility is not subject to the Title V permitting requirements.

6. Please provide additional notes or comments as necessary:

A FEPTIO was previously issued for emissions units P012 and P013 on January 7, 2011. The terms and conditions used for those emissions units are almost identical to the terms that have been used in this FEPTIO for P027 and P028.

7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	4.32
PE	4.41
Single HAP	9.5 (facility wide)
Combined HAP	24.5 (facility wide)

PUBLIC NOTICE

12/1/2011 Issuance of Draft Air Pollution Permit-To-Install and Operate

TREMCO INC. - MAMECO DIVISION

4475 EAST 175TH ST.,

CLEVELAND, OH 44128

Cuyahoga County

FACILITY DESC.: Adhesive Manufacturing

PERMIT #: P0108271

PERMIT TYPE: Renewal

PERMIT DESC: This is a FEPTIO renewal permit for Tremco. Emissions unit P010 has been separated into emissions units P027 and P028 since these units can operate independently of each other. Each emissions unit consists of blending vessels and powder dryers. The blenders and powder dryers are vented to a cartridge baghouse for particulate control. PTI 13-2917 was issued on September 27, 1995 for P010.

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the permit # or: David Hearne, Cleveland Division of Air Quality, 2nd Floor 75 Erieview Plaza, Cleveland, OH 44114. Ph: (216)664-2297



**Ohio**

**Environmental  
Protection Agency**

**DRAFT**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
TREMCO INC. - MAMECO DIVISION**

Facility ID:	1318002813
Permit Number:	P0108271
Permit Type:	Renewal
Issued:	12/1/2011
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance





Division of Air Pollution Control
Permit-to-Install and Operate
for
TREMCO INC. - MAMECO DIVISION

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## Authorization

Facility ID: 1318002813

Application Number(s): A0041905

Permit Number: P0108271

Permit Description: This is a FEPTIO renewal permit for Tremco. Emissions unit P010 has been separated into emissions units P027 and P028 since these units can operate independently of each other. Each emissions unit consists of blending vessels and powder dryers. The blenders and powder dryers are vented to a cartridge baghouse for particulate control. PTI 13-2917 was issued on September 27, 1995 for P010.

Permit Type: Renewal

Permit Fee: \$0.00 *DO NOT send payment at this time, subject to change before final issuance*

Issue Date: 12/1/2011

Effective Date: To be entered upon final issuance

Expiration Date: To be entered upon final issuance

Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

TREMCO INC. - MAMECO DIVISION  
4475 EAST 175TH ST.  
CLEVELAND, OH 44128

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

Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0108271

Permit Description: This is a FEPTIO renewal permit for Tremco. Emissions unit P010 has been separated into emissions units P027 and P028 since these units can operate independently of each other. Each emissions unit consists of blending vessels and powder dryers. The blenders and powder dryers are vented to a cartridge baghouse for particulate control. PTI 13-2917 was issued on September 27, 1995 for P010.

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>P027</b>
Company Equipment ID:	Kettle 16
Superseded Permit Number:	13-2917
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P028</b>
Company Equipment ID:	K18
Superseded Permit Number:	13-2917
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 submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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

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

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

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

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

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

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

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

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

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



1. P027, Kettle 16

Operations, Property and/or Equipment Description:

The process consists of an 1100 gallon blending vessel with a powder dryer. Liquid raw materials are added to the blender. Solids are dried in the drier and then added to the blender and mixed. The finished product is then pumped into pails or drums. The blender and powder drier are vented to a cartridge baghouse for particulate control. (P010 has been separated into P027 & P028)

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)(2)d., d)(7), e)(4), f)(1)f., and f)(1)g

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 13-2917 issued 9/27/95)  This emissions unit was installed in 1994.	<p>Volatile organic compound (VOC) emissions shall not exceed 3.47 lbs/batch and 1.90 tons/year</p> <p>Particulate emissions (PE) shall not exceed 4.78 lbs/batch and 2.62 tons/year</p> <p>Visible particulate emissions from this stack shall not exceed 5% opacity as a 6-minute average.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).</p> <p>See b)(2)a. and b)(2)b. below.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-21-07(M)	See b)(2)c. below.
e.	OAC rule 3745-31-05(D) FEPTIO to avoid Title V and MACT	See b)(2)d. below.

(2) Additional Terms and Conditions

- a. This emissions unit operates using a batch cycle. The standard batch size for this emissions unit is 900 gallons. The minimum amount of time for one batch cycle is 6.25 hours, with a maximum number of batches produced per year of 1095.
- b. The short-term (lbs/batch) and annual (tons/year) emissions limitations for PE from this emissions unit were established based on potential to emit. Therefore, no record keeping or reporting requirements are necessary for these limitations.
- c. This emissions unit is exempt from the requirements of OAC rule 3745-21-07(M) based on the fact that there is no chemical reaction taking place; there is only mixing occurring in this process.
- d. The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from all emissions units at this facility, (listed in b)(2)e. below) shall not exceed 9.5 tons/year for any individual HAP or 24.5 tons/year for a 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)e. below).
- e. The current emissions units located at this facility are P004, P008, P009, P011, P012, P013, P014, P015, P016, P017, P024, P027, P028, T017, T019, T020, T021, T023, T024, T025, T026, T027, T028, T029, T030, T031, T032, T033, T034, T035, T036, T037, T038, T039, T040, T041, T042, T043, B001, B002, B003, B004, B005, and 14 (< 10,000 gallon) storage tanks without separate EU identification numbers.

- c) Operational Restrictions
  - (1) None.
- d) Monitoring and/or Recordkeeping Requirements
  - (1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop, in inches of water, across the dust collector 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, in inches of water, across the dust collector on a daily basis.
  - (2) Whenever the monitored value for the pressure drop 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 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 pressure drop readings 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 range for the pressure drop across the dust collector shall be based upon the manufacturer's specifications until such time as any required emissions testing is conducted.
  - (5) This range is 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 range 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 range 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 day for emissions unit P027:
    - a. the company identification of each final product produced;

- b. the vapor pressure of the loaded material for each batch (according to MSDS of each material), in psia;
  - c. the volume of the each material loaded, in gallons for each step of the batch;
  - d. the molecular weight of each material loaded, in lb/lb mole;
  - e. the final vapor pressure of the material, if heated, in psia;
  - f. the flow rate of the purge into the vessel, in ft<sup>3</sup>/min;
  - g. the temperature of the exhaust gas (conservatively determined by measuring the temperature of the final product);
  - h. the total emissions for each batch produced (calculated as shown by the equations and methodologies in f)(1)a., in pounds; and
  - i. the annual summation of the VOC emissions [sum of (h)], in tons.
- (7) The permittee shall collect and record the following information each month for the entire facility (list of emissions units identified in b)(2)e.):
- a. the name and identification number of each HAP containing material employed;
  - b. the individual HAP content contained in the final product for each HAP, in percent weight;
  - c. the total of each individual HAP emissions from the emissions unit in pounds or tons per month. [The individual HAP emissions will be determined by applying the equations\* found in f)(1)a. for each individual HAP species or by multiplying the VOC emissions rate, as determined by the equations\* found in f)(1)a. below for all blending vessels (P004, P008, P009, P011, P012, P013, P014, P015, P016, P017, P024, P027, and P028), and the latest version of U.S. EPA's TANKS or U.S. EPA reference document AP-42, Fifth Edition or the most recent edition of AP-42, Compilation of Air Pollution Emission Factors, Section 7.1, Organic Liquid Storage Tanks (9/97) for all storage tanks (T017, T019, T020, T021, T023, T024, T025, T026, T027, T028, T029, T030, T031, T032, T033, T034, T035, T036, T037, T038, T039, T040, T041, T042, T043, and 14 exempt storage tanks) by the individual HAP content of each solvent contained in the final product for each HAP, in percent weight. In order to determine individual HAP emissions from boilers B001, B002, B003, B004, and B005, U.S. EPA reference document AP-42, Fifth Edition or the most recent edition of AP-42, External Combustion Sources, Section 1.4, Natural Gas Combustion (7/98) will be used. Any emission factors shall be updated based on the results of any new emissions data or stack testing data obtained.

\*These equations are the calculation methodologies found in the STAPPA/ALAPCO-EPA document, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8";

- d. the total combined HAP emissions from the emissions unit in pounds or tons per month [the sum of (c) for all individual HAPs];
- e. the updated rolling, 12-month summation of emissions for each individual HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months; and
- f. the updated rolling, 12-month summation of emissions for total combined HAPs, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

\* 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 emission unit basis.

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 include in the annual PER the following information concerning the operation of the control equipment during the operation of this emissions unit:
  - a. each period of time when the pressure drop across the baghouse was outside of 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 deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the 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.
- (3) The permittee shall include in the annual PER information that identifies all exceedances of the short-term (lbs/batch) and annual emission limitations for VOC.
- (4) 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. an identification of each month during which the rolling, 12-month individual HAP emissions rate (from the list of emissions units referenced in b)(2)e.) exceeded 9.5 tons, and the actual rolling, 12-month summation of each individual HAP emissions rate (from the list of emissions units referenced in b)(2)e.) for each such month; and
- ii. an identification of each month during which the rolling, 12-month combination of all HAP emissions rates (from the list of emissions units referenced in b)(2)e.) exceeded 24.5 tons, and the actual rolling, 12-month summation of the combination of all HAP emissions rates (from the list of emissions units referenced in b)(2)e.) for each such month.
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

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

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality. Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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  
VOC emissions shall not exceed 3.47 lbs/batch

Applicable Compliance Method

Compliance shall be based off of the record keeping found in d)(6) and the following equations taken from the STAPPA/ALAPCO-EPA document, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8."

Loading Loss Equation, EIIP Equation 8.4-1  
$$Evoc = (12.46)(S)(P)(M)(Q)/(T)$$

Where:

12.46 = Universal gas constant

S = Saturation factor  
P = System vapor pressure, (psia)  
M = Vapor molecular weight, (lb/lb mole)  
Q = Volume of material loaded, (1000 gal)  
T = Temperature of liquid loaded, (R)

Gas Sweep or Purge Equation, EIIP Equation 8.4-23  

$$EXP = ((P_x)(F)(M_x)(60)(OH)/(R)(T)) * (PT)/(PT \sum P_x)$$

Where:

EXP = Emission of VOC species x, (lbs)  
 P<sub>x</sub> = Partial pressure of VOC species x, (psia)  
 F = Flow rate into vessel, (ft<sup>3</sup>/min)  
 M<sub>x</sub> = Molecular weight of VOC species x, (lb/lb-mole)  
 60 = Minutes per hour  
 OH = Hours of purge, (hr)  
 R = 10.73 gas constant  
 T = Temperature of exhaust gas, (R)  
 PT = Total system pressure, (psia)

Heatup Loss Equation, EIIP Equation 8.4-10  

$$Evoc = (((\sum(P_x)T_1 / 14.7 - \sum(P_x)T_1) + (\sum(P_x)T_2 / 14.7 - \sum(P_x)T_2) / 2) * (n)(M_a)$$

Where:

Evoc = VOC emissions from heat up, (lbs)  
 (P<sub>x</sub>)T<sub>1</sub> = Initial partial pressure of VOC species x at T<sub>1</sub>, (psia)  
 (P<sub>x</sub>)T<sub>2</sub> = Final partial pressure of VOC species x at T<sub>2</sub>, (psia)  
 M<sub>a</sub> = Vapor molecular weight, (lb/lb-mole)  
 n = Number of pound-moles of gas displaced, (lb-mole)

$$n = [(V/R) * (P_{a1}/T_1 - P_{a2}/T_2)]$$

Where:

V = vessel free volume, ft<sup>3</sup>  
 R = 10.73 gas constant  
 P<sub>a1</sub> = 14.7 - (P<sub>x</sub>)T<sub>1</sub>  
 P<sub>a2</sub> = 14.7 - (P<sub>x</sub>)T<sub>2</sub>  
 T<sub>1</sub> = R (F + 460)  
 T<sub>2</sub> = R (F + 460)

The batch cycle steps for initial kettle inerting, kettle washing, loading raws, and packaging shall use the loading loss EIIP equation 8.4-1. The batch cycle steps for purging from powder loading and nitrogen line purging shall use the gas sweep or purge EIIP Equation 8.4-23. The batch cycle steps for blending heatup shall use the heatup loss EIIP Equation 8.4-10. Any contributing fugitive emissions shall be calculated using SOCM emission factors found in "Protocol for Equipment Leak Emission Estimates" EPA453/R-95-017, November 1995.

Any additional batch cycle steps shall be calculated using the equations contained in the STAPPA/ALAPCO-EPA documents, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8 and/or Methods for Estimating Air emissions from Chemical Manufacturing Facilities, Volume II: Chapter 16." The short-term (lb/batch) emissions shall be determined by summing the values calculated from all batch steps and adding any contributing fugitive emissions calculated.

If required by the Ohio EPA or the CDAQ, compliance with the VOC emission limitation shall be determined through emission testing conducted in accordance with U.S. EPA Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method.

- b. Emission Limitation  
VOC emissions shall not exceed 1.90 tons/year

Applicable Compliance Method

Compliance shall be based off of the record keeping found in d)(6) including the equations and methodologies found in f)(1)a..

- c. Emission Limitation  
PE shall not exceed 4.78 lbs/batch.

Applicable Compliance Method

Compliance with the mass emissions limitation shall be determined by using the following one-time calculation for potential to emit:

$$(9590 \text{ lbs PE/batch}) \times (1 - 0.95) \times (1 - 0.99) = 4.78 \text{ lbs/batch}$$

Where:

9590 lbs = maximum process feed rate

0.95 = conservative assumption of the amount of solids captured by solvent

0.99 = conservative control efficiency of dust collector

If required by Ohio EPA or the CDAQ, compliance with the PE limitation shall be determined through emission testing conducted in accordance with U.S. EPA Methods 1 through 5 of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method

- d. Emission Limitation  
PE shall not exceed 2.62 tons/year.

Applicable Compliance Method

The annual limitation was developed by multiplying the lbs/batch limitation by the maximum annual production rate of 1095 batches/year, and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lbs/batch limitation,

compliance will also be shown with the annual limitation.

e. Emission Limitation

Visible particulate emissions from any stack shall not exceed 5% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method

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

f. Emission Limitation

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

Applicable Compliance Method

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

g. Emission Limitation

24.5 tons combined HAPs/year for the list of emissions units in b)(2)e., as a 12-month, rolling summation.

Applicable Compliance Method

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

g) Miscellaneous Requirements

(1) None.



2. P028, K18

Operations, Property and/or Equipment Description:

The process consists of an 1100 gallon blending vessel with a powder dryer. Liquid raw materials are added to the blender. Solids are dried in the drier and then added to the blender and mixed. The finished product is then pumped into pails or drums. The blender and powder drier are vented to a cartridge baghouse for particulate control. (P010 has been separated into P027 & P028)

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)(2)d., d)(7), e)(4), f)(1)f., and f)(1)g

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 13-2917 issued 9/27/95)  This emissions unit was installed in 1995.	<p>Volatile organic compound (VOC) emissions shall not exceed 6.64 lbs/batch and 2.42 tons/year.</p> <p>Particulate emissions (PE) shall not exceed 4.89 lbs/batch and 1.79 tons/year.</p> <p>Visible particulate emissions from this stack shall not exceed 5% opacity as a 6-minute average.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).</p> <p>See b)(2)a. and b)(2)b. below.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-21-07(M)	See b)(2)c. below.
e.	OAC rule 3745-31-05(D) FEPTIO to avoid Title V and MACT	See b)(2)d. below.

(2) Additional Terms and Conditions

- a. This emissions unit operates using a batch cycle. The standard batch size for this emissions unit is 900 gallons. The minimum amount of time for one batch cycle is 10.5 hours, with a maximum number of batches produced per year of 730.
- b. The short-term (lbs/batch) and annual (tons/year) emissions limitations for PE from this emissions unit were established based on potential to emit. Therefore, no record keeping or reporting requirements are necessary for these limitations.
- c. This emissions unit is exempt from the requirements of OAC rule 3745-21-07(M) based on the fact that there is no chemical reaction taking place; there is only mixing occurring in this process.
- d. The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from all emissions units at this facility, (listed in b)(2)e. below) shall not exceed 9.5 tons/year for any individual HAP or 24.5 tons/year for a 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)e. below).
- e. The current emissions units located at this facility are P004, P008, P009, P011, P012, P013, P014, P015, P016, P017, P024, P027, P028, T017, T019, T020, T021, T023, T024, T025, T026, T027, T028, T029, T030, T031, T032, T033, T034, T035, T036, T037, T038, T039, T040, T041, T042, T043, B001, B002, B003, B004, B005, and 14 (< 10,000 gallon) storage tanks without separate EU identification numbers.

- c) Operational Restrictions
  - (1) None.
- d) Monitoring and/or Recordkeeping Requirements
  - (1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop, in inches of water, across the dust collector 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, in inches of water, across the dust collector on a daily basis.
  - (2) Whenever the monitored value for the pressure drop 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 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 pressure drop readings 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 range for the pressure drop across the dust collector shall be based upon the manufacturer's specifications until such time as any required emissions testing is conducted.
  - (5) This range is 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 range 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 range 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 day for emissions unit P028:
    - a. the company identification of each final product produced;

- b. the vapor pressure of the loaded material for each batch (according to MSDS of each material), in psia;
  - c. the volume of the each material loaded, in gallons for each step of the batch;
  - d. the molecular weight of each material loaded, in lb/lb mole;
  - e. the final vapor pressure of the material, if heated, in psia;
  - f. the flow rate of the purge into the vessel, in ft<sup>3</sup>/min;
  - g. the temperature of the exhaust gas (conservatively determined by measuring the temperature of the final product);
  - h. the total emissions for each batch produced (calculated as shown by the equations and methodologies in f)(1)a., in pounds; and
  - i. the annual summation of the VOC emissions [sum of (h)], in tons.
- (7) The permittee shall collect and record the following information each month for the entire facility (list of emissions units identified in b)(2)e.):
- a. the name and identification number of each HAP containing material employed;
  - b. the individual HAP content contained in the final product for each HAP, in percent weight;
  - c. the total of each individual HAP emissions from the emissions unit in pounds or tons per month. [The individual HAP emissions will be determined by applying the equations\* found in f)(1)a. for each individual HAP species or by multiplying the VOC emissions rate, as determined by the equations\* found in f)(1)a. below for all blending vessels (P004, P008, P009, P011, P012, P013, P014, P015, P016, P017, P024, P027, and P028), and the latest version of U.S. EPA's TANKS or U.S. EPA reference document AP-42, Fifth Edition or the most recent edition of AP-42, Compilation of Air Pollution Emission Factors, Section 7.1, Organic Liquid Storage Tanks (9/97) for all storage tanks (T017, T019, T020, T021, T023, T024, T025, T026, T027, T028, T029, T030, T031, T032, T033, T034, T035, T036, T037, T038, T039, T040, T041, T042, T043, and 14 exempt storage tanks) by the individual HAP content of each solvent contained in the final product for each HAP, in percent weight. In order to determine individual HAP emissions from boilers B001, B002, B003, B004, and B005, U.S. EPA reference document AP-42, Fifth Edition or the most recent edition of AP-42, External Combustion Sources, Section 1.4, Natural Gas Combustion (7/98) will be used. Any emission factors shall be updated based on the results of any new emissions data or stack testing data obtained.

\*These equations are the calculation methodologies found in the STAPPA/ALAPCO-EPA document, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8";

- d. the total combined HAP emissions from the emissions unit in pounds or tons per month [the sum of (c) for all individual HAPs];
- e. the updated rolling, 12-month summation of emissions for each individual HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months; and
- f. the updated rolling, 12-month summation of emissions for total combined HAPs, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

\* 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 emission unit basis.

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 include in the annual PER the following information concerning the operation of the control equipment during the operation of this emissions unit:
  - a. each period of time when the pressure drop across the baghouse was outside of 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 deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the 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.
- (3) The permittee shall include in the annual PER information that identifies all exceedances of the short-term (lbs/batch) and annual emission limitations for VOC.
- (4) 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. an identification of each month during which the rolling, 12-month individual HAP emissions rate (from the list of emissions units referenced in b)(2)e.) exceeded 9.5 tons, and the actual rolling, 12-month summation of each individual HAP emissions rate (from the list of emissions units referenced in b)(2)e.) for each such month; and
  - ii. an identification of each month during which the rolling, 12-month combination of all HAP emissions rates (from the list of emissions units referenced in b)(2)e.) exceeded 24.5 tons, and the actual rolling, 12-month summation of the combination of all HAP emissions rates (from the list of emissions units referenced in b)(2)e.) for each such month.
- b. the probable cause of each deviation (excursion);
  - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
  - d. the magnitude and duration of each deviation (excursion).

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

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality. Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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  
VOC emissions shall not exceed 6.64 lbs/batch

Applicable Compliance Method

Compliance shall be based off of the record keeping found in d)(6) and the following equations taken from the STAPPA/ALAPCO-EPA document, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8."

Loading Loss Equation, EIIP Equation 8.4-1  

$$Evoc = (12.46)(S)(P)(M)(Q)/(T)$$

Where:

12.46 = Universal gas constant

S = Saturation factor  
P = System vapor pressure, (psia)  
M = Vapor molecular weight, (lb/lb mole)  
Q = Volume of material loaded, (1000 gal)  
T = Temperature of liquid loaded, (R)

Gas Sweep or Purge Equation, EIIP Equation 8.4-23  

$$EXP = ((Px)(F)(Mx)(60)(OH)/(R)(T)) * (PT)/(PT \text{ sum}Px)$$

Where:

EXP = Emission of VOC species x, (lbs)  
Px = Partial pressure of VOC species x, (psia)  
F = Flow rate into vessel, (ft<sup>3</sup>/min)  
Mx = Molecular weight of VOC species x, (lb/lb-mole)  
60 = Minutes per hour  
OH = Hours of purge, (hr)  
R = 10.73 gas constant  
T = Temperature of exhaust gas, (R)  
PT = Total system pressure, (psia)

Heatup Loss Equation, EIIP Equation 8.4-10  

$$Evoc = (((\text{sum}(Px)T1 / 14.7 - \text{sum}(Px)T1) + (\text{sum}(Px)T2 / 14.7 - \text{sum}(Px)T2) / 2)) * (n)(Ma)$$

Where:

Evoc = VOC emissions from heat up, (lbs)  
(Px)T1 = Initial partial pressure of VOC species x at T1, (psia)  
(Px)T2 = Final partial pressure of VOC species x at T2, (psia)  
Ma = Vapor molecular weight, (lb/lb-mole)  
n = Number of pound-moles of gas displaced, (lb-mole)

$$n = [(V/R) * (Pa1/T1 - Pa2/T2)]$$

Where:

V = vessel free volume, ft<sup>3</sup>  
R = 10.73 gas constant  
Pa1 = 14.7 - (Px)T1  
Pa2 = 14.7 - (Px)T2  
T1 = R (F + 460)  
T2 = R (F + 460)

The batch cycle steps for initial kettle inerting, kettle washing, loading raws, and packaging shall use the loading loss EIIP equation 8.4-1. The batch cycle steps for purging from powder loading and nitrogen line purging shall use the gas sweep or purge EIIP Equation 8.4-23. The batch cycle steps for blending heatup shall use the heatup loss EIIP Equation 8.4-10. Any contributing fugitive emissions shall be calculated using SOCM emission factors found in "Protocol for Equipment Leak Emission Estimates" EPA453/R-95-017, November 1995.

Any additional batch cycle steps shall be calculated using the equations contained in the STAPPA/ALAPCO-EPA documents, "Emission Inventory Improvement Program (EIIP), Methods for Estimating Air from Paint, Ink, and Other Coating Manufacturing Facilities, Volume II: Chapter 8 and/or Methods for Estimating Air emissions from Chemical Manufacturing Facilities, Volume II: Chapter 16." The short-term (lb/batch) emissions shall be determined by summing the values calculated from all batch steps and adding any contributing fugitive emissions calculated.

If required by the Ohio EPA or the CDAQ, compliance with the VOC emission limitation shall be determined through emission testing conducted in accordance with U.S. EPA Method 25 or 25A of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method.

- b. Emission Limitation  
VOC emissions shall not exceed 2.42 tons/year

Applicable Compliance Method

Compliance shall be based off of the record keeping found in d)(6) including the equations and methodologies found in f)(1)a..

- c. Emission Limitation  
PE shall not exceed 4.89 lbs/batch.

Applicable Compliance Method

Compliance with the mass emissions limitation shall be determined by using the following one-time calculation for potential to emit:

$$(9775 \text{ lbs PE/batch}) \times (1 - 0.95) \times (1 - 0.99) = 4.89 \text{ lbs PE/batch}$$

Where:

9775 lbs = maximum process feed rate

0.95 = conservative assumption of the amount of solids captured by solvent

0.99 = conservative control efficiency of dust collector

If required by Ohio EPA or the CDAQ, compliance with the PE limitation shall be determined through emission testing conducted in accordance with U.S. EPA Methods 1 through 5 of 40 CFR Part 60, Appendix A, or any Ohio EPA approved alternative testing method

- d. Emission Limitation  
PE shall not exceed 1.79 tons/year.

Applicable Compliance Method

The annual limitation was developed by multiplying the lbs/batch limitation by the maximum annual production rate of 730 batches/year, and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lbs/batch limitation,

compliance will also be shown with the annual limitation.

- e. Emission Limitation  
Visible particulate emissions from any stack shall not exceed 5% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method

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

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

Applicable Compliance Method

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

- g. Emission Limitation  
24.5 tons combined HAPs/year for the list of emissions units in b)(2)e., as a 12-month, rolling summation.

Applicable Compliance Method

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

- g) Miscellaneous Requirements

- (1) None.