



State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

9/4/2008

GARY PETRUSKA
MAR-BAL, INC.
16930 MUNN RD
CHAGRIN FALLS, OH 44023

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0228000194
Permit Number: 02-22977
Permit Type: Initial Installation
County: Geauga

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate ("PTIO") which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully.

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

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

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

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

Sincerely,

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

Cc: Ohio EPA-NEDO

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director



**State of Ohio Environmental Protection Agency
Division of Air Pollution Control**

FINAL

**Air Pollution Permit-to-Install and Operate
for
MAR-BAL, INC.**

Facility ID: 0228000194
Permit Number: 02-22977
Permit Type: Initial Installation
Issued: 9/4/2008
Effective: 9/4/2008
Expiration: 9/4/2013



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install and Operate
for
MAR-BAL, INC.

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Permit Number: 02-22977
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Authorization

Facility ID: 0228000194
Application Number(s): A0002197
Permit Number: 02-22977
Permit Description: Replacement BMC mixer.
Permit Type: Initial Installation
Permit Fee: \$500.00
Issue Date: 9/4/2008
Effective Date: 9/4/2008
Expiration Date: 9/4/2013
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15
This document constitutes issuance to:

MAR-BAL, INC.
16930 MUNN RD
AUBURN TOWNSHIP, OH 44023

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:

Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 43087
(330)425-9171

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install and Operate

Permit Number: 02-22977

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Effective Date: 9/4/2008

Authorization (continued)

Permit Number: 02-22977

Permit Description: Replacement BMC mixer.

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

Emissions Unit ID:

P007

Company Equipment ID:

BMC Mixer 1053

Superseded Permit Number:

General Permit Category and Type:

Not Applicable



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A. Standard Terms and Conditions



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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

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

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.



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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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



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Division of Air Pollution Control

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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.



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B. Facility-Wide Terms and Conditions



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Permit Number: 02-22977

Facility ID: 0228000194

Effective Date: 9/4/2008

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.



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Effective Date: 9/4/2008

C. Emissions Unit Terms and Conditions



1. P007, BMC Mixer 1053

Operations, Property and/or Equipment Description:

BMC mixer - Littleford FKM-600-D 95 gallon (600 lbs) Plow Mixer with Baghouse Control

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

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

a. d)(7), d)(8), d)(9) and e(4).

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

a. b)(1)b, b)(2)f, b)(2)g, b)(2)h, b)(2)i, b)(2)j, b)(2)k, c)(1), d)(3)d, d)(4), d)(5)a, d)(5)c, d)(5)d, d)(5)e, d)(5)f, d)(6)b, d)(6)c, e)(2)c, e)(2)d, e)(2)e, e)(2)f, e)(2)g, e)(2)i, e)(3), f)(1)c, f)(1)f, f)(1)g, and f)(1)h.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	See b)(2)a through b)(2).c.
b.	OAC rule 3745-31-05(D)	See b)(2)f through b)(2)k and c)(1).
c.	OAC rule 3745-31-05(E)	See b)(2)d and b)(2)e.
d.	OAC rule 3745-17-07(A)	The visible particulate emissions from the dust collector stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. See b)(2)l.
e.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (C).
f.	OAC rule 3745-21-07(G)(2)	See b)(2)m through b)(2)o.



(2) Additional Terms and Conditions

- a. The permittee shall only use nonphotochemically reactive material for clean-up.
- b. A cover shall be used on this emissions unit. The permittee shall keep the mixer cover closed while actual mixing is occurring, except when adding materials to this emissions unit.
- c. The permittee shall use volatile organic compounds (VOC) vapor-suppressed bags to store the mixed materials prior to further use.
- d. Particulate emissions from emissions units P004, P005, P006, and P007, combined, shall not exceed 4.38 tons per year for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) by using a 3,900 cubic feet per minute dust collector.
- e. The permittee shall use a shaking-type dust collector with timer, which shall periodically clean the dust cake from the bags, to control the particulate emissions generated from the operation of this emissions unit.
- f. Organic compounds (OC) emissions from the use of acetone as a clean-up material, shall not exceed 9.90 tons per year.
- g. The facility-wide VOC (styrene) emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.
- h. The permittee shall seek pre-approval from Ohio EPA, by (at a minimum) submitting a facility-wide potential-to-emit (PTE) analysis, before the installation of any additional pre-blending tank at the facility. This does not waive the permittee responsibility to comply with OAC chapter 3745-31.
- i. The maximum percentage of styrene in the preblended liquid materials shall not exceed forty-six percent (46.00 %), by weight.
- j. Only preblended liquid materials originating from this facility's pre-blending tanks shall be used in this emissions unit. Preblended liquid materials are prohibited from being transferred to any holding tanks or storage vessels in or outside of this facility, except in cases of malfunction.
- k. The pre-blending tanks in the facility shall be operated in such a manner that each complete batch of the preblended liquid materials shall be transferred to only one mixer at this facility. Therefore, when the two preblending tanks are operating there shall be no more than two mixers in operation at any given time at this facility.
- l. The visible particulate emission limitation is applicable only when emissions units P004, P005, and P006 are not in operation.
- m. The VOC emissions generated by operating this emissions unit shall not exceed 8 pounds per hour and 40 pounds per day when photochemically reactive materials are employed.



- n. The emissions of organic materials from the production operation consist of styrene, a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).
 - o. The OC emission limitation of 8 pounds per hour and 40 pounds per day when photochemically reactive materials are employed shall cease to be effective and federally enforceable on the date the U.S. EPA approves the revisions to OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds. After the rule is added to the Ohio SIP, the emission limitation, monitoring, record keeping, reporting, and testing requirements related to these hourly and daily limitations included in sections b)(2)a, b)(2)m, b)(2)n, b)(2)o, d)(3)a, d)(3)b, d)(3)c, d)(3)e, d)(3)f, d)(5)b, e)(2)a, e)(2)b, e)(2)h, f)(1)a, and f)(1)b shall be void.
 - p. This emissions unit shall not be installed unless emissions unit P003 is permanently shut down.
- c) Operational Restrictions
- (1) The total styrene throughput at the facility shall be no more than 1,755,410 pounds on a rolling, 12-month summation basis.

Compliance with the annual styrene throughput limitation shall be based upon a rolling, 12-month summation of styrene throughput.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall properly operate and maintain the timer in the dust collector, which shall periodically clean the dust cake from the bags, while the emissions unit is in operation. The timer shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall check the timer on a weekly basis.
 - (2) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack of the dust collector serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in operation log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the



observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (3) The permittee shall record the following information for this emissions unit each day:
- a. the name and identification number of each batch of materials mixed in this emissions unit;
 - b. the total operating hours of this emissions unit, defined as "OT", in hours per day;
 - c. the amount of preblended liquid materials used in each batch, defined as "AM", in pounds per batch;
 - d. the percentage of styrene in the preblended liquid materials, by weight, in each batch, defined as "ST%", in pounds styrene per pound of preblended liquid materials;
 - e. the total VOC (styrene) emissions from this emissions unit for the day, defined as "D_{VOC}", in pounds per day. "D_{VOC}" shall be calculated as follows:
$$D_{VOC} = \text{the sum, from } i = 1 \text{ to } i = n \text{ of } [(AM)(ST\%)(EF)]_i$$

where:

i = subscript denoting an individual mixing batch of this emissions unit;

n = the total number of mixing batch of this emissions unit; and

EF = emission factor, in pounds VOC emissions per pound of styrene input, determined by the most recent stack test; and
 - f. the average hourly VOC (styrene) emissions from this emissions unit, "Hvoc", in pounds per hour, shall be calculated as follows:
$$Hvoc = (D_{VOC})/(OT).$$
- (4) The permittee shall keep the following information each month:
- a. the monthly VOC (styrene) emissions from this emissions unit, in tons per month;
 - b. the monthly facility-wide VOC (styrene) emissions, in tons per month;
 - c. the rolling, 12-month summation of the total facility-wide VOC (styrene) emissions, in tons;
 - d. the monthly styrene throughput, in pounds per month; and
 - e. the rolling, 12-month summation of total styrene throughput, in pounds.



- (5) The permittee shall keep the following cleanup material information each month for this emissions unit:
- the identification of each cleanup material employed;
 - whether the cleanup material is a nonphotochemically reactive material;
 - the volume of each cleanup material employed, defined as " V_{cleanup} ", in gallons per month;
 - the OC content of each cleanup material, defined as " OC_{content} ", in pounds OC per gallon of the cleanup material;
 - the total OC emissions from cleanup materials, " OC_{cleanup} ", in pounds per month, shall be calculated as follows:
$$OC_{\text{cleanup}} = \text{the sum, from } j = 1 \text{ to } j = m \text{ of } [(V_{\text{cleanup}})(OC_{\text{content}})]$$

where:

j = subscript denoting an individual cleanup material; and

m = the total number of cleanup materials employed; and
 - the rolling, 12-month summation of the total OC emissions from cleanup materials, in tons.
- (6) The permittee shall keep a daily operating log with the following information:
- Whether a cover is used while actual mixing is occurring (except when adding materials to this emissions unit). If a cover is not used in this emissions unit while actual mixing is occurring (except when adding materials to this emissions unit), an explanation of why this emissions unit's cover is not closed.
 - Whether this emissions unit accepts pre-blended liquid materials from one of the two pre-blending tanks at the facility. If this emissions unit accepts pre-blended liquid materials other than those originating from one of the two facility's pre-blending tanks, the reason for this activity, and the actual amount of preblended liquid materials being used by this emissions unit in this manner.
 - Whether the pre-blended liquid materials from preblending tanks at the facility are transferred into holding tanks or any other type of containers prior to use in the mixers. The log should include an explanation of any time material is transferred to a holding tank or other container because of an emergency or other abnormal circumstance, and the actual amount of preblended liquid materials being transferred.
- (7) The permit to install for emissions units P004, P005, P006, and P007, combined, was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to these emissions units for each toxic air contaminant listed in OAC 3745-114-01, using data from the permit application; and modeling was performed for each toxic air



contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground_level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground_Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

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

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

Toxic Contaminant: Styrene

TLV (mg/m3): 85.202

Maximum Hourly Emission Rate (lbs/hr): 2.06

Predicted 1-Hour Maximum Ground_Level Concentration (ug/m3): 1,330

MAGLC (ug/m3): 2,029

The permittee, has demonstrated that emissions of styrene, from emissions units P004, P005, P006, and P007, is calculated to be less than eighty per cent of the maximum



acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

- (8) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745_31_01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous permitted level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

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



- d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- e) Reporting Requirements
- (1) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month periods.
 - (2) The permittee shall submit deviation (excursion) reports that include the following information for this emissions unit:
 - a. an identification of each day during which the average hourly VOC (styrene) emissions from this emissions unit exceeded 8.0 pounds, and the actual average hourly VOC (styrene) emissions for each such day;
 - b. an identification of each day during which the daily VOC (styrene) emissions from this emissions unit exceeded 40.0 pounds, and the actual daily VOC (styrene) emissions for each such day;
 - c. an identification of each month during which the rolling, 12-month facility-wide VOC (styrene) emissions exceeded 9.00 tons, and the actual rolling, 12-month facility-wide VOC (styrene) emissions for each such month;
 - d. an identification of each day during which the maximum percentage of styrene in any batch of preblended liquid materials exceeded forty-six percent (46.00%), by weight limitation, and the actual styrene percentage, by weight, in preblended liquid materials for each such batch in each day.
 - e. an identification of each day during which this emissions unit accepted preblended liquid materials other than those originating from one of the pre-blending tanks at this facility, and the actual amount of pre-blended liquid materials accepted by this emissions units for each such batch in each day, along with the reason for such an activity;
 - f. an identification of each day during which any batch of preblended liquid materials originating from this facility's preblended tanks were transferred to more than one mixer in this facility, and the actual amount of pre-blended liquid materials transferred to each mixer for each such batch in each day, along with the reason for such activities;
 - g. an identification of each day during which preblended liquid materials were transferred into any holding tanks or storage vessels in or outside of this facility, and the actual amount of preblended liquid materials transferred, along with the reason for such activities;



- h. an identification of each month during which a photochemically reactive cleanup material was employed in this emissions unit, and the actual amount of photochemically reactive cleanup material employed for each such month; and
- i. an identification of each month during which the rolling, 12-month total styrene throughput in the facility exceeded 1,755,410 pounds, and the actual amount of styrene throughput in each such month.

These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.

- (3) The permittee shall submit annual reports that specify the OC emissions from cleanup material employed in this emissions unit, the total facility-wide styrene throughput, as well as facility-wide VOC (styrene) emissions. The reports shall include the calculations, shall be submitted by January 31 of each year, and shall cover the previous calendar year.
- (4) The permittee shall submit annual reports to the Ohio EPA Northeast District Office, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the AToxic Air Contaminant Statute², ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

f) Testing Requirements

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

a. Emission Limitation:

The VOC (styrene) emissions generated by operating this emissions unit shall not exceed 8 pounds per hour when photochemically reactive materials are employed.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section d)(3) of these terms and conditions. If required, the permittee shall demonstrate compliance by emission testing in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25A.

b. Emission Limitation:

The VOC (styrene) emissions generated by operating this emissions unit shall not exceed 40 pounds per day when photochemically reactive materials are employed.

Applicable Compliance Method:



Compliance shall be demonstrated based upon the record keeping requirements specified in section d)(3) of these terms and conditions.

c. Emission Limitation:

OC emissions from the use of acetone as a clean-up material, shall not exceed 9.90 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section d)(5) of these terms and conditions.

d. Emission Limitation:

Particulate emissions from emissions units P004, P005, P006, and P007, combined, shall not exceed 4.38 tons per year.

Applicable Compliance Method:

Compliance shall be determined in accordance with the following:

$$EP_{P004-P007} = (ME)(FR)(60 \text{ min/hr})(8,760 \text{ hr/yr})/(7,000 \text{ grains/lb})(2,000 \text{ lbs/ton})$$

where:

Me = the maximum emission rate from the dust collector stack by the manufacture guarantee number, which is 0.03 grain/ft³; and

FR = the maximum flow rate of the dust collector = 3,900 ft³/min.

If required, the permittee shall demonstrate compliance by emission testing in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

e. Emission Limitation:

The visible particulate emissions from the dust collector stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be demonstrated by visible emission evaluations performed in accordance with the procedures specified in OAC rule 3745-17-03(B)(1) using the test methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

f. Emission Limitation:

The facility-wide VOC (styrene) emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:



Compliance shall be demonstrated based upon the record keeping requirements specified in section d)(4) of these terms and conditions.

g. Emission Limitation:

The maximum percentage of styrene in the preblended liquid materials shall not exceed forty-six percent (46.00 %), by weight.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section d)(3) of these terms and conditions.

h. Emission Limitation:

The total styrene throughput at the facility shall be no more than 1,755,410 pounds on a rolling, 12-month summation basis.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section d)(4) of these terms and conditions.

g) Miscellaneous Requirements

- (1) None.