

## Synthetic Minor Determination and/or Netting Determination

Permit To Install: 02-22977

### A. Source Description

Mar-Bal, Inc. is a compounder and molder of electrical and structural reinforced thermosetting materials. The facility currently has four (4) BMC (bulk molding compound) mixers (emissions units P003, P004, P005, and P006) with a baghouse to control particulate emissions. There are also insignificant (de minimis) emissions units in the facility, such as storage tanks, pre-blending tanks, extruders, BMC storage, injection and compress molding machines. This permit is used to proposed a new BMC mixer (emissions unit P007) to replace existing mixer P003. The proposed new replacement mixer (P007) is a plow type mixer that is the same model as the existing BMC mixer, emissions unit P004. Emissions unit P003 will be permanently shut down before the installation and startup of the proposed new replacement mixer P007.

### B. Facility Emissions and Attainment Status

Mar-Bal, Inc. is located at 16930 Munn Road, Newbury Township, Geauga County, an area designated as "non-attainment" for ozone, and "attainment" for sulfur dioxide, PM<sub>2.5</sub>, carbon monoxide and lead. The facility will not be a "Major Source" for a single hazardous air pollutant (styrene), based upon an Ohio EPA-documented production "bottleneck" and restriction of throughout styrene input in their operation. Therefore, MACT and Title V requirements will not apply to them.

### C. Source Emissions

Mar-Bal has an operational requirement that all liquid materials have to be pre-blended at the two pre-blending tanks inside of the facility. Each batch of pre-blended liquid material (entire batch) can only be fed to a single mixer. Therefore, only two mixers can be operated at the same time.

On March 28, 2006, PTI No. 02-21414 was issued to Mar-bal, Inc. With the limitation of operating only two mixers at one time (the "bottleneck") and the limitation of total styrene throughput of 1,755,410 pounds per rolling, 12-month average, the maximum facility-wide potential to emit (PTE) of styrene will be no more than 9.00 tons per year. Mar-Bal has then been designated to be a minor source of Title V and MACT.

Since the proposed mixer (P007) is a replacement of existing mixer P003, this synthetic minor PTI will contain terms and conditions, as in PTI No. 02-21414, that require all the four mixers (emissions units P004, P005, P006, and P007) in the facility to be operated to emit no more than 9.00 tons per year of VOC (styrene) through the bottleneck restrictions and styrene throughput to no more than 1,755,410 pounds per year. Also, this synthetic minor PTI requires that Mar-Bal track their VOC (styrene) emissions, keep records and submit reports.

### D. Conclusion

The emission limits contained in this synthetic minor PTI are adequate to provide federally enforceable limitations to ensure that the applicable MACT and Title V thresholds will not be exceeded.





State of Ohio Environmental Protection Agency

**RE: DRAFT PERMIT TO INSTALL  
GEAUGA COUNTY**

**CERTIFIED MAIL**

Street Address:

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov.  
Center

**Application No:** 02-22977

**Fac ID:** 0228000194

**DATE:** 5/13/2008

Mar-Bal Inc  
Gary Petruska  
16930 Munn Rd  
Chagrin Falls, OH 44023

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on 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 proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43216-1049.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$500** will be due. Please do not submit any payment now.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Sincerely,

*Michael W. Ahern*

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section  
Division of Air Pollution Control

CC: USEPA

NEDO

PA

**PUBLIC NOTICE**  
**ISSUANCE OF DRAFT PERMIT TO INSTALL 02-22977 FOR AN AIR CONTAMINANT SOURCE**  
**FOR Mar-Bal Inc**

On 5/13/2008 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **Mar-Bal Inc**, located at **16930 Munn Rd, Auburn Township**, Ohio.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 02-22977:

**Replacement BMC mixer.**

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Dennis Bush, Ohio EPA, Northeast District Office, 2110 East Aurora Road, Twinsburg, OH 44087  
[(330)425-9171]



**Permit To Install  
Terms and Conditions**

**Issue Date: To be entered upon final issuance  
Effective Date: To be entered upon final issuance**

**DRAFT PERMIT TO INSTALL 02-22977**

Application Number: 02-22977  
Facility ID: 0228000194  
Permit Fee: **To be entered upon final issuance**  
Name of Facility: Mar-Bal Inc  
Person to Contact: Gary Petruska  
Address: 16930 Munn Rd  
Chagrin Falls, OH 44023

Location of proposed air contaminant source(s) [emissions unit(s)]:

**16930 Munn Rd  
Auburn Township, Ohio**

Description of proposed emissions unit(s):

**Replacement BMC mixer.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

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Chris Korleski  
Director

Mar-Bal Inc

Facility ID: 0228000194

PTI Application: 02-22977

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Part I - GENERAL TERMS AND CONDITIONS

## **A. Permit to Install General Terms and Conditions**

### **1. Compliance Requirements**

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

### **2. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

### **3. Records Retention Requirements**

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

### **4. Inspections and Information Requests**

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections,

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conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

#### **5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

#### **6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

#### **7. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

#### **8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

#### **9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental

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Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

**10. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

**11. Applicability**

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

**12. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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**13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

**14. Construction Compliance Certification**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**15. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

**B. Permit to Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)  
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
PE <sub>(P004 -P007)</sub>	4.38
VOC (facility-wide)	9.00
OC <sub>(clean-up materials used in this emissions unit)</sub>	9.90

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

**Operations, Property, and/or Equipment - (P007) - BMC Mixer - Littleford FKM-600-D 95 gallon (600 lb) Plow Mixer with baghouse control**

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	See sections A.2.a through A.2.c of these terms and conditions.
OAC rule 3745-31-05(C)	See sections A.2.d through A.2.k and B.1 of these terms and conditions.
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 section A.2.l of these terms and conditions.
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).
OAC rule 3745-21-07(G)(2)	See sections A.2.m through A.2.o of these terms and conditions.

**2. Additional Terms and Conditions**

- 2.a The permittee shall only use nonphotochemically reactive material for clean-up.
- 2.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.
- 2.c The permittee shall use volatile organic compounds (VOC) vapor-suppressed bags to store the mixed materials prior to further use.
- 2.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

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using a 3,900 cubic feet per minute dust collector.

- 2.e** Organic compounds (OC) emissions from the use of acetone as a clean-up material, shall not exceed 9.90 tons per year.
- 2.f** 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.
- 2.g** The facility-wide VOC (styrene) emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.
- 2.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.
- 2.i** The maximum percentage of styrene in the preblended liquid materials shall not exceed forty-six percent (46.00 %), by weight.
- 2.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.
- 2.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.
- 2.l** The visible particulate emission limitation is applicable only when emissions units P004, P005, and P006 are not in operation.
- 2.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.
- 2.n** The emissions of organic materials from the production operation consist of styrene, a photochemically reactive material, as defined in OAC rule

Emissions Unit ID: P007

3745-21-01(C)(5).

- 2.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 A.2.a, A.2.m, A.2.n, A.2.o, C.3.a, C.3.b, C.3.c, C.3.e, C.3.f, C.5.b, D.2.a, D.2.b, D.2.h, E.1.a, and E.1.b of these terms and conditions shall be void.
- 2.p** This emissions unit shall not be installed unless emissions unit P003 is permanently shut down.

## **B. 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.

## **C. Monitoring and/or Record Keeping 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;

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- 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<sub>VOC</sub>", in pounds per day. "D<sub>VOC</sub>" 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;

Emissions Unit ID: P007

$n$  = 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:
- the monthly VOC (styrene) emissions from this emissions unit, in tons per month;
  - the monthly facility-wide VOC (styrene) emissions, in tons per month;
  - the rolling, 12-month summation of the total facility-wide VOC (styrene) emissions, in tons;
  - the monthly styrene throughput, in pounds per month; and
  - 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:

$$OC_{cleanup} = \text{the sum, from } j = 1 \text{ to } j = m \text{ of } [(V_{cleanup})(OC_{content})]_j$$

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where:

j = subscript denoting an individual cleanup material; and

m = the total number of cleanup materials employed; and

- f. 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:
    - a. 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.
    - b. 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.
    - c. 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

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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):
 
$$\text{MAGLC} = \left\{ \frac{\text{TLV OVER } 10}{4} \times \left( \frac{8 \text{ OVER } X}{5 \text{ OVER } Y} \right) \right\} \times \text{MAGLC}$$
- 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

Emissions Unit ID: P007

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.

#### **D. 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;

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- 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.
3. All deviation (excursion) reports shall be submitted in accordance with the General Terms and Conditions.
  4. 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.

## E. 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 C.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 C.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 C.5 of these terms and conditions.

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d. Emission Limitation:

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

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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/ft<sup>3</sup>; and

FR = the maximum flow rate of the dust collector = 3,900 ft<sup>3</sup>/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 C.4 of these terms and conditions.

g. Emission Limitation:

Emissions Unit ID: **P007**

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

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Applicable Compliance Method:

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

**F. Miscellaneous Requirements**

None

Mar-Bal Inc

Facility ID: 0228000194

PTI Application: 02-22977

Issued: To be entered upon final issuance

Emissions Unit ID: P007

SIC CODE  SCC CODE  EMISSIONS UNIT ID

EMISSIONS UNIT DESCRIPTION

DATE INSTALLED

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter <sub>(P004 - P007)</sub>	Attainment	1.0 lb/hr	4.38	1.0 lb/hr	4.38
PM <sub>10</sub>					
Sulfur Dioxide					
Organic Compounds	Non-Attainment		0.10		9.90
Volatile Organic Compounds <small>(facility-wide)</small>	Non-Attainment		9.00		9.00
Volatile Organic Compounds					
Nitrogen Oxides					
Carbon Monoxide					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Mar-Bal Inc

Facility ID: 0228000194

PTI Application: 02-22977

Issued: To be entered upon final issuance

Emissions Unit ID: P007

**Enter Determination** (1) Use of non-photochemically reactive material only for clean -up; (2) A cover shall be used while this emissions unit is operating; (3) VOC vapor-suppressed bags shall be used to store the mixed materials prior to further use. The basis for the determination was the knowledge of process, engineering analysis, and regulations governing this emissions unit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ \_\_\_\_\_

**TOXIC AIR CONTAMINANTS**

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED\*? X YES \_\_\_\_\_ NO \_\_\_\_\_IDENTIFY THE AIR CONTAMINANTS: Styrene