

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 032012-001

Project Number: 2011-08-008
Installation Number: 055-0038

Parent Company: Mar-Bal, Inc.

Parent Company Address: 10095 Queens Way, Chagrin Falls, OH 44023

Installation Name: Mar-Bal, Inc.

Installation Address: 202 Commerce Drive, Cuba, MO 65453

Location Information: Crawford County, S31, T39N, R4W

Application for Authority to Construct was made for:

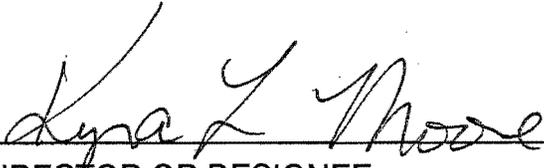
The installation of an ultraviolet (UV) clear coat paint line that includes a 9 by 15 foot self-contained paint booth and a chain-on edge conveyor for conveying through a UV chamber to cure the clear coat. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAR - 1 2012

EFFECTIVE DATE


DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2011-08-008

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Mar-Bal, Inc.
Crawford County, S31, T39N, R4W

1. **Operational Requirement**
Mar-Bal, Inc. shall keep the paint solvents and cleaning solutions in sealed containers whenever the materials are not in use. Mar-Bal, Inc. shall provide and maintain suitable, easily read, permanent markings on all paints, solvent and cleaning solution containers used with this equipment.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2011-08-008
Installation ID Number: 055-0038
Permit Number:

Mar-Bal, Inc.
202 Commerce Drive
Cuba, MO 65453

Complete: 08/01/2011

Parent Company:
Mar-Bal, Inc.
10095 Queens Way
Chagrin Falls, OH 44023

Crawford County, S31, T39N, R4W

REVIEW SUMMARY

- Mar-Bal, Inc. has applied for authority to install a UV clear coat paint line that includes a 9 by 15 foot self-contained paint booth and a chain-on edge conveyor for conveying through a UV chamber to cure the clear coat.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are toluene (CAS#108-88-3), Xylene (CAS#1330-20-7), and methyl methacrylate (CAS# 80-62-6).
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR 60 Subpart SS, "Standards of Performance for Industrial Surface Coating: Large Appliances" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. Facility wide styrene emissions are restricted to 9.5 tons per year, MACT requirements under 40 CFR Part 63, Subpart M, and National Emission Standards for Hazardous Air Pollutants Surface Coating of Metal Parts and Products are not applicable to the installation. Also, 40 CFR Part 63, subpart H, National Emission Standards for Hazardous Air Pollutants : Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources does not apply based on the review of the coating supplied for the review as it contains no target metals and avoids MACT requirements. .
- No air pollution control equipment is being used in association with the new equipment.

- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of Pollutant are below de minimis levels.
- This installation is located in Crawford County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing are not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup. This installation has a limit of less than 9.5 tons a year styrene. from therefore Title V requirements are avoided.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Mar-Bal, Inc., located in Cuba, Missouri, is a private company that does not have an Operating permit. Mar-Bal specializes in manufacturing custom-molded parts for electrical distribution and control devices, plus a wide range of components for the appliance industry. Established in Ohio in 1970, the company has maintained a manufacturing facility in Cuba, Missouri since 1988, where it currently has 85 employees. Mar-Bal molds parts for electrical switchgear, controls, motors, drives, circuit breakers, transformers, telecommunication devices, rail, and aviation. Appliance giant Whirlpool is one of its biggest clients. Mar-Bal's expansion is due to the increased demand for its products, particularly a unique stainless-steel oven door handle. The company currently outsources the manufacture of the product to a company in New York but plans to move the process to its facility in Cuba, Missouri. The company has branded the plasma vapor deposition (PVD) technology Thermanal. This gives its parts much improved surface finishes compared to those normal for such materials. The heat resistance, corrosion resistance, and lighter part weight of composites are all technical advantages when compared to metal. The technology helps offer unlimited glosses. Additional exterior coatings can be applied to provide for anti-fingerprinting, clean-ability and UV resistance. Applications for parts coated via the process include appliance handles, control knobs for stoves, oven control panels, washer, dryer, dish washer components, counter top kitchen appliances, under hood automotive and heavy truck parts and others where original equipment manufacturer industrial designers and engineers are looking for an alternative to metals.

The following permits have been issued to Mar-Bal, Inc. from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0995-019	Thermoset polyester operation
0596-022	Mixer, extruder and 5 molding units
1299-017	2 paint booths and oven
042001-002	Molding machine and mixer

PROJECT DESCRIPTION

This is the installation of a used paint line from a former automotive parts producer. The paint line consists of a 9 foot by 15 foot self-contained paint booth which will utilize a robot for applying the coating. Intake and exhaust air will be ducted out side the building. No control device is used with the paint booth. The resin was considered to be solids and was assumed to be PM₁₀ and all PM₁₀ was considered to be PM_{2.5}. A transfer efficiency of 0.60 was applied to the calculations. Transfer efficiency is the amount of solids applied to the surface divided by the total solids used. The parts will be transported on a chain on edge conveyor. Altering the speed of this conveyor may trip additional permit requirements. After painting the parts will be conveyed through a UV chamber which will cure the clear edge coat paint. The hourly throughput is estimated at 180 parts per hour. The paint usage is estimated at 200 parts per gallon or 0.9 gallons per hour. Cashew UV number 4512HS clear was the only coating evaluated for the paint line.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the installation and specified in the application or was submitted in project 2011-06-034. the hourly throughput of 180 parts per hour. The paint usage is estimated at 200 parts per gallon or 0.9 gallons per hour. Mass balance was used to determine the Potential to Emit of the painting operation. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

A transfer efficiency of 0.60 was applied based on emails submitted by the applicant with air atomized spraying. The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions**	Existing Actual Emissions (2010 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM _{2.5}	10.0	N/D	N/D	6.78	N/A
PM ₁₀	15.0	1.95	0.22	6.78	N/A
SO _x	40.0	N/D	N/D	N/A	N/A
NO _x	40.0	N/D	N/D	N/A	N/A
VOC	40.0	26.9	4.09	15.36	N/A
CO	100.0	N/D	N/D	N/A	N/A
HAPs	10.0/25.0	6.2/9.5	N/D	1.96	N/A
Xylene	10*	N/D	N/D	0.054	N/A
Toulene	10*	N/D	N/D	1.87	N/A
Methyl Metharcylate	10*	N/D	N/D	0.037	N/A

N/A = Not Applicable; N/D = Not Determined; * implies Screen Modeling Action Levels.

** from project 2000-12-076 with permit number 042001-002

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of Pollutant are below de minimis levels.

APPLICABLE REQUIREMENTS

Mar-Bal, Inc. shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220

- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for, "Standards of Performance for Industrial Surface Coating: Large Appliances"*, 40 CFR Part 60, Subpart SS

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Timothy Paul Hines
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated 07/15/2011, received 08/01/2011, designating Mar-Bal, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated 09/08/2011.

Mr. Don Currey
Director of Engineering
Mar-Bal, Inc.
202 Commerce Drive
Cuba, MO 65453

RE: New Source Review Permit - Project Number: 2011-08-008

Dear Mr. Currey:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Timothy Paul Hines, at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:thl

Enclosures

c: Southeast Regional Office
PAMS File: 2011-08-008

Permit Number: