

STATE OF MISSOURI

PERMIT BOOK



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: 11 2015 - 006

Project Number: 2015-07-052
Installation Number: 077-0052

Parent Company: Paul Mueller Company

Parent Company Address: 1600 West Phelps Street, Springfield, MO 65801

Installation Name: Paul Mueller Company

Installation Address: 1600 West Phelps Street, Springfield, MO 65801

Location Information: Greene County (S15, T29N, R22W)

Application for Authority to Construct was made for:

The installation of a paint booth. 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.

Handwritten signature of Ryan Schott in black ink.

Prepared by
Ryan Schott
New Source Review Unit

Handwritten signature of Kyrin L. Moore in black ink.

Director or Designee
Department of Natural Resources

NOV 12 2015

Effective Date

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 Department's Air Pollution Control Program of the anticipated date of startup 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 startup 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 source(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.

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."

Paul Mueller Company
Greene County (S15, T29N, R22W)

1. Spray Coating Usage Limitation
 - A. Paul Mueller Company shall spray less than 2,800 gallons of any primer, activator, or paint compound in the Open Bay Paint Booth, Bay 6 (EP-15) in any consecutive 12 month period.
 - B. Attachment A or an equivalent form, such as an electronic form approved by the Air Pollution Control Program, shall be used to demonstrate compliance with Special Condition 1.A.
2. Use of Alternative Coatings
 - A. When considering using an alternative coating that is different than the compounds listed in the Application for Authority to Construct, Paul Mueller Company shall calculate the potential emissions of all individual HAPs in the alternative material.
 - B. Paul Mueller Company shall seek approval from the Air Pollution Control Program before use of the alternative material if the potential individual HAP emissions of the alternative material are equal to or greater than the SMAL for any HAP listed in Appendix B.
 - C. Attachment B or an equivalent form, such as an electronic form approved by the Air Pollution Control Program, shall be used to show compliance with Special Condition 2.A.
3. Record Keeping and Reporting Requirements
 - A. Paul Mueller Company shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include SDS for all materials used.
 - B. Paul Mueller Company shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

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

Project Number: 2015-07-052
Installation ID Number: 077-0052
Permit Number:

Installation Address:

Paul Mueller Company
1600 West Phelps Street
Springfield, MO 65801
Greene County (S15, T29N, R22W)

Parent Company:

Paul Mueller Company
1600 West Phelps Street
Springfield, MO 65801

REVIEW SUMMARY

- Paul Mueller Company has applied for authority to install a paint booth.
- The application was deemed complete on August 25, 2015.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process include ethylbenzene, hexamethylene diisocyanate (HDI), and xylene.
- None of the NSPS, NESHAPs, or MACT regulations apply to the proposed equipment.
- No air pollution control devices are 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 all pollutants are conditioned below the de minimis level and their respective SMALs.
- This installation is located in Greene 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.
- Emissions testing is not required for the equipment.
- Submittal of a Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION/ PROJECT DESCRIPTION

Paul Mueller Company manufactures stainless steel tanks and processing equipment at its existing facility in Springfield, Missouri. This facility has previously never received a construction permit from the Air Pollution Control Program, but it has required a basic operating permit. After a review of facility operations, it was found that a construction permit will be necessary for the Open Bay Paint Booth, Bay 6 (EP-15). The maximum spray rate of the paint gun is 11.41 gallons of coating per hour; this value does not take into account any process bottlenecks such as prep time, drying time, etc.

EMISSIONS/CONTROLS EVALUATION

VOC and HAP emissions from spray painting were calculated using a mass balance approach. The highest theoretical volatile percentage and HAP percentage of each of the paint components were multiplied by their respective densities and the maximum design rate of the process to obtain a maximum VOC/ HAP usage rate. It was assumed that 100% of VOCs and HAPs were emitted. In order to reduce VOC and HAP emissions (specifically HDI) below de minimis levels and below SMALs, a spray coating usage limitation was instated. By limiting the amount of material sprayed in the paint booth, all pollutants were indirectly limited below de minimis levels and SMALs.

PM₁₀ and PM_{2.5} emissions from spray painting were also calculated using a mass balance approach. The highest theoretical solids content of each paint component were multiplied by their respective densities, a solids transfer efficiency of 50% for the spray gun (which is conservative for this spraying method), and the maximum design rate of the process. It was assumed that all particulate matter was PM_{2.5}. Although the permit application stated that a baghouse is being used to control particulate matter emissions, the control efficiency of the baghouse was not taken into account for this project. Because there is a limit on the amount of material that can be sprayed in the paint booth, particulate matter emissions are subsequently limited far below de minimis levels. This makes the capture efficiency of the booth and the requirement of a baghouse unnecessary to enforce.

The following table provides an emissions summary for this project. Because this facility has previously never received a construction permit and because much of the equipment is exempt from permitting, there are no existing potential emissions. Existing actual emissions were taken from the installation's 2014 EIQ. Potential emissions of the application represent the potential of the equipment, assuming continuous operation (8,760 hours per year). Conditioned potential emissions take into account the spray coating usage limitation.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels/ SMAL	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	New Project Conditioned Potential Emissions
PM ₁₀	15.0	N/D	2.92	141.68	3.97
PM _{2.5}	10.0	N/D	1.57	141.68	3.97
SO _x	40.0	N/D	N/A	N/A	N/A
NO _x	40.0	N/D	1.26	N/A	N/A
VOC	40.0	N/D	1.79	174.42	4.89
CO	100.0	N/D	0.39	N/A	N/A
Ethylbenzene	10.0 / 10	N/D	N/D	6.30	0.18
HDI	10.0 / 0.02	N/D	N/D	0.70	0.0197
Xylene	10.0 / 10	N/D	N/D	25.19	0.71
Total HAPs	25.0	N/D	N/D	31.48	0.88

N/A = Not Applicable; N/D = Not Determined

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 all pollutants are conditioned below the de minimis level and their respective SMALs.

APPLICABLE REQUIREMENTS

Paul Mueller Company 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

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*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 20, 2015, received July 28, 2015, designating Paul Mueller Company as the owner and operator of the installation.

Attachment B – Evaluation of Alternative Materials

Paul Mueller Company
 Greene County (S15, T29N, R22W)
 Project Number: 2015-07-052
 Installation ID Number: 077-0052
 Permit Number: _____

A	B	C	D	E	F	G
¹ Material Name	² Individual HAP Name and CAS No.	³ Individual HAP Content (weight %)	³ Product Density (lb/gal)	Maximum Limited Usage Rate (gal/year)	⁴ Individual HAP PTE (ton/year)	⁵ Individual HAP SMAL (ton/year)
<i>Example New Coating</i>	<i>Xylene 1330-20-7</i>	<i>20.0</i>	<i>8.17</i>	<i>2,800</i>	<i>2.29</i>	<i>10.0</i>
<i>Example New Coating</i>	<i>Cobalt 2-Ethylhexanoate 136-52-7</i>	<i>0.2</i>	<i>8.17</i>	<i>2,800</i>	<i>0.0046</i>	<i>0.1</i>
				2,800		
				2,800		
				2,800		
				2,800		
				2,800		
				2,800		
				2,800		
				2,800		

¹ Record the names of all alternative coatings planned to be sprayed through EP-15.

² Compare each ingredient on the MSDS against the chemical names listed in Appendix B for verification as a HAP.

³ Chemical properties as reported on the MSDS; if a range is given, use the highest value listed.

⁴ Individual HAP PTE is calculated as follows: $[F] = [C] / (100) \times [D] \times [E] / (2,000 \text{ lb/ton})$

⁵ Individual HAP SMAL as reported in Appendix B.

If any value in [F] exceeds its respective value in [G], you shall contact the Air Pollution Control Program to determine if a new permit is required for the new material.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SDS	Safety Data Sheet
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. William Hewett
Environmental & Safety Manager
Paul Mueller Company
P.O. Box 828
Springfield, MO 65801-0828

RE: New Source Review Permit - Project Number: 2015-07-052

Dear Mr. Hewett:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions 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 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 were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, Truman State Office Building, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.ao.mo.gov/ahc. If you have any questions regarding this permit, contact Ryan Schott, at the Department of Natural Resources' Air Pollution Control Program, (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:rs1

Enclosures

c: Southwest Regional Office
PAMS File: 2015-07-052
Permit Number: