

Commonwealth of Kentucky
Division for Air Quality
STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-24-005
American Heartland Manufacturing Company, LLC
757 Brownslock Rd.
Bowling Green, KY 42102
February 26, 2024
Qinyi Wang, Reviewer

SOURCE ID: 21-227-00175
AGENCY INTEREST: 120556
ACTIVITY: APE20230001

Table of Contents

SECTION 1 – SOURCE DESCRIPTION	2
SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM.....	3
SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS	4
SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS	7
SECTION 5 – PERMITTING HISTORY	9
SECTION 6 – PERMIT APPLICATION HISTORY.....	10
APPENDIX A – ABBREVIATIONS AND ACRONYMS	11

SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 2511: Wood Household Furniture

Single Source Det. Yes No If Yes, Affiliated Source AI:

Source-wide Limit Yes No If Yes, See Section 4, Table A

28 Source Category Yes No If Yes, Category:

County: Warren

Nonattainment Area N/A PM₁₀ PM_{2.5} CO NO_x SO₂ Ozone Lead

PTE* greater than 100 tpy for any criteria air pollutant Yes No

If yes, for what pollutant(s)?

PM₁₀ PM_{2.5} CO NO_x SO₂ VOC

PTE* greater than 250 tpy for any criteria air pollutant Yes No

If yes, for what pollutant(s)?

PM₁₀ PM_{2.5} CO NO_x SO₂ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) Yes No

If yes, list which pollutant(s): Toluene

PTE* greater than 25 tpy for combined HAP Yes No

*PTE does not include self-imposed emission limitations.

Description of Facility:

American Heartland Manufacturing Company, LLC (AHMC) located at 757 Brownslock Road in Bowling Green, Kentucky, produces wooden household furniture (SIC Code 2511, Wood Household Furniture, Except Upholstered (except wood box spring frames)). AHMC has operated the facility at its current location since 2013, and conducts a variety of industrial processes including spray painting operations and assembly.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-24-005

Activities: APE20230001

Received: December 13, 2023

Application Complete Date(s): February 15, 2024

Permit Action: Initial Renewal Significant Rev Minor Rev Administrative

Construction/Modification Requested? Yes No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action Yes No

Description of Action:

On December 13, 2023, an application was received from American Heartland Manufacturing Company, LLC for a renewal of their conditional major permit (F-18-058) for their manufacturing facility in Bowling Green, KY.

F-24-005 Emission Summary		
Pollutant	2022 Actual ¹ (tpy)	PTE F-24-005 (tpy)
CO	2.90E-04	8.61E-04
NOx	7.59E-06	1.02E-03
PT	0.29	0.91
PM10	0.29	0.91
PM2.5	0.16	0.41
SO2	2.07E-06	6.15E-06
VOC	43.96	612.43*
Lead	N/A	5.12E-09
Greenhouse Gases (GHGs)		
Carbon Dioxide	0.41	1.23
Methane	7.94E-06	2.31E-05
Nitrous Oxide	7.59E-06	2.31E-06
CO2 Equivalent (CO2e)	0.41	1.23
Hazardous Air Pollutants (HAPs)		
Ethyl Benzene	0.39	1.41
Formaldehyde	N/A	7.68E-07
Hexane; N-Hexane	N/A	1.84E-05
Toluene	4.56	27.49**
Xylenes (Total)	1.75	4.69
Combined HAPs:	0.39	33.59**

¹ Actual Emissions are from the Kentucky Division for Air Quality 2022 Emission Inventory Report

*Emissions limited by federally-enforceable emission limitations to ensure the source remains below major source thresholds.

**Source requested a limitation of potential emissions to preclude 40 CFR 63, Subpart JJ and 401 KAR 52:020

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit #01 EP01 Spray Booth 1 #02 EP02 Spray Booth 2				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC	Source wide 90 tpy	To preclude 401 KAR 52:020 & 401 KAR 51:017	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
Individual HAP	Source wide 5.0 tpy	To preclude 401 KAR 52:020 & 40 CFR 63 Subpart JJ	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
Combined HAP	Source wide 12.5 tpy	To preclude 401 KAR 52:020 & 40 CFR 63 Subpart JJ	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & MSDS with 60% Transfer Efficiency	Spray Booth and Filter, 90% Control Efficiency
	20% opacity	402 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observation and differential pressure

Initial Construction Date: EP: 1/2013, EP02: 1/2013

Process Description:

Unfinished, assembled wood furniture pieces are placed in the Spray Paint Booths for finishing. Spray Booth 1 is used to apply paints, stains, and toners to wood furniture. Spray Booth 2 is used to apply lacquer and sealer to wood furniture. Filters are used to control particulate emissions from the spray booths. Solvents are used to regularly clean both booths.

Applicable Regulation:

401 KAR 59:010, *New process operations.* This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

401 KAR 63:020, *Potentially hazardous matter or toxic substances.* Applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

Precluded Regulations:

401 KAR 52:020, *Title V permits.* This regulation is precluded since the source has accepted emissions limited by federally-enforceable emission limitations to ensure the source remains below major source thresholds.

Emission Unit
#01 EP01 Spray Booth 1
#02 EP02 Spray Booth 2

401 KAR 63:002 Section 2(4)(z), 40 C.F.R. 63.800 to 63.808, Tables 1 through 6 (Subpart JJ), *National Emission Standards for Wood Furniture Manufacturing Operations.*

401 KAR 51:017, *Prevention of significant deterioration of air quality.* This regulation is to be precluded since the facility has accepted a 90 tpy limit on VOC emissions to preclude major source status and establish a synthetic minor status.

Comments:

- EP01:
Toner maximum throughput: 14.5 gallon/hr and 2628 hours of operation a year, Paint: 14.5 gallon/hr and 1752 hours of operation a year, Stain: 14.5 gallon/hr and 4380 hours of operation a year, Clean-up Solvent: 0.0417 gallon/hr and 8760 hours of operation a year.
- EP02:
Lacquer/Sealers maximum throughput: 14.5 gallon/hr and 8760 hours of operation a year, Clean-up Solvent: 0.0417 gallon/hr and 8760 hours of operation a year.
- **401 KAR 63:002 Section 2(4)(z), 40 C.F.R. 63.800 to 63.808, Tables 1 through 6 (Subpart JJ), *National Emission Standards for Wood Furniture Manufacturing Operations*** might apply due to the source's specific industry and SIC classification (2511 – Wood Household Furniture, Except Upholstered). After review the source opted to comply with the emission limits specified in 40 CFR 63.800(b)(3) (rolling 12-month limit of 5.0 tons for individual HAP and 12.5 tons for combined HAPs) to be an area source and not subject to any other provisions of this rule.

Emission Unit - Insignificant Activity
#03 EP03 Woodworking Operation

Initial Construction Date: 1/2013

Process Description:

Woodworking operation will produce woodworking waste. Dust controller (1) with bag filter unit used to control particulate emissions from woodworking operations.

Applicable Regulation:

401 KAR 59:010, *New process operations.*

Comments:

- EP03:
Woodworking Operation maximum throughput: 632 gallon/hr and 8760 hours of operation a year.

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of VOC emissions	To preclude 401 KAR 52:020 & 401 KAR 51:017	Source-wide
5.0 tpy of individual HAP emissions	To preclude 401 KAR 52:020 & 40 CFR 63 Subpart JJ	Source-wide
12.5 tpy of combined HAP emissions	To preclude 401 KAR 52:020 & 40 CFR 63 Subpart JJ	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 63:020, <i>Potentially hazardous matter or toxic substances.</i>	EU 01, 02
401 KAR 59:010, <i>New Process Operations</i>	EU 01 & 03

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 52:020, <i>Title V permits</i>	Source-wide
401 KAR 51:017, <i>Prevention of significant deterioration of air quality</i>	Source-wide
40 C.F.R. 63, Subpart JJ, <i>National Emission Standards for Wood Furniture Manufacturing Operations.</i>	Source-wide

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
N/A	

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*

The Division for Air Quality (Division) has performed modeling using SCREEN View and AERMOD on February 14, 2024 of potentially hazardous matter or toxic substances (Toluene, Xylenes, and Ethylbenzene) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
F-14-005	Initial	APE20130002	1/13/2014	6/10/2014	Initial Operating Permit	Syn Minor
F-18-058	Renewal	APE20180001	12/10/2018	6/26/2019	Renewal	N/A

SECTION 6 – PERMIT APPLICATION HISTORY
None.

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS	– Ambient Air Quality Standards
BACT	– Best Available Control Technology
Btu	– British thermal unit
CAM	– Compliance Assurance Monitoring
CO	– Carbon Monoxide
Division	– Kentucky Division for Air Quality
ESP	– Electrostatic Precipitator
GHG	– Greenhouse Gas
HAP	– Hazardous Air Pollutant
HF	– Hydrogen Fluoride (Gaseous)
MSDS	– Material Safety Data Sheets
mmHg	– Millimeter of mercury column height
NAAQS	– National Ambient Air Quality Standards
NESHAP	– National Emissions Standards for Hazardous Air Pollutants
NO _x	– Nitrogen Oxides
NSR	– New Source Review
PM	– Particulate Matter
PM ₁₀	– Particulate Matter equal to or smaller than 10 micrometers
PM _{2.5}	– Particulate Matter equal to or smaller than 2.5 micrometers
PSD	– Prevention of Significant Deterioration
PTE	– Potential to Emit
SO ₂	– Sulfur Dioxide
TF	– Total Fluoride (Particulate & Gaseous)
VOC	– Volatile Organic Compounds