

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

Conditional Major, Operating
Permit: F-24-039
Froedge Machine and Supply Co., Inc.
Tompkinsville, KY 42167
October 30, 2024
Ibrahim AL-Burai, Reviewer
SOURCE ID: 21-171-00027
AGENCY INTEREST: 39356
ACTIVITY: APE20240001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code: 3553, Woodworking Machinery

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: Monroe

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): Xylene

PTE* greater than 25 tpy for combined HAP Yes No

*PTE does not include self-imposed emission limitations.

Description of Facility:

Froedge Machine and Supply Co., Inc. is a Sawmill and Woodworking Machinery. Services include specialty repair, tool crib stocking, materials handling and automation, custom engineering, machine control computer programming and embedded systems programming.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-24-039

Activities: APE20240001

Received: May 2, 2024

Application Complete Date(s): June 27, 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:

Renewal permit with no construction

F-24-039 Emission Summary		
Pollutant	2023 Actual (tpy)	PTE F-24-039 (tpy)
CO	0	0.00
NOx	0	0.00
PT	0.064	0.10
PM ₁₀	0.064	0.10
PM _{2.5}	0.043	0.11
SO ₂	0	0.00
VOC	0.497	35.70
Lead	0	0
Greenhouse Gases (GHGs)		
Carbon Dioxide	0	0
Methane	0	0
Nitrous Oxide	0	0
CO ₂ Equivalent (CO ₂ e)	0	0
Hazardous Air Pollutants (HAPs)		
Ethyl Benzene	0.042	0.45
Xylenes (Total)	0.106	1.07
Combined HAPs:	0.148	2.004

*Note: The permittee has requested federally enforceable emission limitations to preclude major source status under 401 KAR 52:020.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit #2 Spray Coating Operation				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & SDS	Dry Filter 99% Control efficiency
	< 20% opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly visual observation
VOC	Source wide 50 tpy	To preclude 401 KAR 52:020	Material Balance & SDS	Monthly emission calculations and a new rolling 12-month total
HAPs	5 tpy single HAP and 12.5 tpy combined HAPs	To preclude 401 KAR 52:020	Material Balance & SDS	Monthly emission calculations and a new rolling 12-month total

Initial Construction Date: 8/2001

Process Description:

EP02-1: Spray Coating-Primer

Two (2) high volume low pressure (HVLP) spray guns

Throughput: 2.65 gal/hr

Transfer efficiency: 60%

Control: Dry filter (99% control efficiency)

EP02-2: Spray Coating-Topcoat

Throughput: 2.65 gal/hr

Transfer efficiency: 60%

Control: Dry filter (99% control efficiency)

EP02-3: Thinner Application

Rated Capacity: 6.92E-02 gal/hr

EP02-4: Spray Gun Cleanout

Throughput: 3.23E-02 gal/hr

Control: N/A

Applicable Regulation:

401 KAR 59:010, 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.

State Origin Requirements:

401 KAR 63:020, Potentially hazardous matter or toxic substances.

Emission Unit #2 Spray Coating Operation

Comments:

- 401 KAR 59:225, New Miscellaneous Metal Parts and Products Surface Coating Operations is not applicable because the source is located in Monroe County which is designated as attainment for ozone in Regulation 401 KAR 51:010, also it is not major source for VOC.

Insignificant Activity (Emission Unit #4 Gas Metal Arc Welding)

Initial Construction Date: 8/2001

Process Description:

EP04: Gas Metal Arc Welding

Throughput: 0.00022 1000 pounds/hr

Applicable Regulation:

401 KAR 59:010, 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.

State Origin Requirements:

401 KAR 63:020, Potentially hazardous matter or toxic substances.

Comments:

401 KAR 63:002, Section 2(4)(vvvvv), 40 C.F.R. 63.11514 to 63.11523, Tables 1 to 2 (Subpart XXXXXX), National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories does not apply since the primary operation is not included in applicable source categories.

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
50 tpy of VOC emissions	To preclude the applicability of 401 KAR 52:020, <i>Title V Permits</i>	Source-wide
5 tpy single HAP and 12.5 tpy combined HAPs	To preclude major source status for HAP	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010 – New process operations	EU 02 & 04
401 KAR 63:020, Potentially hazardous matter or toxic substances.	EU 02 & 04

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
N/A	

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
NA	

Air Toxic Analysis :

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

The Division for Air Quality (Division) has performed SCREEN View on October 7, 2024 of potentially hazardous matter or toxic substances (Ethylbenzene, Toluene, Xylene, Cumene and Methanol) 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-10-014	Initial	APE20090001	10/18/2009	4/16/2010	Initial Construction Permit	N/A
F-15-007	Renewal	APE20140001	12/2/2014	4/13/2015	Renewal	N/A
F- 19-024	Renewal	APE20190001	6/21/2019	12/15/2019	Renewal	N/A

SECTION 6 – PERMIT APPLICATION HISTORY
N/A

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