

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

Conditional Major, Operating  
PERMIT ID: F-24-012

Leininger Cabinet & Woodworking Inc.  
116 S. Forbes Road  
Lexington, KY 40511-2021

July 15, 2024  
Ibrahim AL-Burai, Reviewer

Source ID: 21-067-00189  
Agency Interest #: 47536  
Activity ID: APE20230001

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## SECTION 1 - SOURCE DESCRIPTION

SIC Code and description: 2541, Wood Office and Store Fixtures, Partitions, Shelving, and Lockers ( custom architectural millwork).

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: Fayette

Nonattainment Area  N/A  PM<sub>10</sub>  PM<sub>2.5</sub>  CO  NO<sub>x</sub>  SO<sub>2</sub>  Ozone  Lead  
If yes, list Classification:

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

If yes, for what pollutant(s)?

PM<sub>10</sub>  PM<sub>2.5</sub>  CO  NO<sub>x</sub>  SO<sub>2</sub>  VOC

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

If yes, for what pollutant(s)?

PM<sub>10</sub>  PM<sub>2.5</sub>  CO  NO<sub>x</sub>  SO<sub>2</sub>  VOC

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

If yes, list which pollutant(s): Cumene, Ethylbenzene, Methanol, Naphthalene, Toluene, Xylene

PTE\* greater than 25 tpy for combined HAP  Yes  No

\*PTE does not include self-imposed emission limitations.

### Description of Facility:

The facility manufactures unique custom architectural millwork and casework for both commercial and residential markets.

**SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM**

Permit Number: F-24-012

Activity: APE20230001

Application Received: 10/6/2023

Application Complete: 12/1/2023

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-24-012 Emission Summary		
Pollutant	2022 Actual (tpy)	PTE F-24-012 (tpy)
CO	0.013	0.372
NOx	0.016	0.443
PT	0.03	18.815
PM <sub>10</sub>	0.03	17.791
PM <sub>2.5</sub>	0.017	8.307
SO <sub>2</sub>	0.0001	0.003
VOC	1.066	1181.985*
Lead	0	0
Greenhouse Gases (GHGs)		
Carbon Dioxide	18.936	531.365
Methane	0.0004	0.010
Nitrous Oxide	0.0004	0.010
CO <sub>2</sub> Equivalent (CO <sub>2</sub> e)	19.065	534.523
Hazardous Air Pollutants (HAPs)		
Benzene	0	0.002
Chlorobenzene	0	0.001
Cumene	0.009	28.161*
Ethyl Benzene	0.024	27.347*
Formaldehyde	0.001	1.022
Manganese and Manganese Compounds	0.00003	0.111
Methanol	0.122	103.710*
Methyl Isobutyl Ketone	0.013	8.548
Naphthalene	0.012	27.270*
Phenol	0	0.002
Toluene	0.325	240.160*
Vinyl Acetate	0	0.003
Xylenes (Total)	0.112	132.947*
Combined HAPs:	0.595	569.284*

\* Note: Emissions limited by federally-enforceable emission limitations to ensure the source remains below major source thresholds and in compliance with 401 KAR 63:020

**SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS**

EU 01 Paint spray booth #1 EU 02 Paint spray booth #2 EU 03 Paint spray booth #3				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC	Source wide 50 tpy	401 KAR 52:030	Material Balance & SDS	Recordkeeping, 12 month rolling total
HAP	Source wide 9/22.5 tpy single/combined	401 KAR 52:030	Material Balance & SDS	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & SDS with 50% Transfer Efficiency	Dry Filter (90% PM control efficiency)
	< 20% Opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly visual observation
Ethylbenzene	Source wide 5.12 tpy	401 KAR 63:020	Material Balance & SDS	Recordkeeping, 12 month rolling total
Naphthalene	Source wide 0.387 tpy	401 KAR 63:020	Material Balance & SDS	Recordkeeping, 12 month rolling total

**Initial Construction Date:** 9/2004

**Process Description:**

Applications include but are not limited to cabinetry, architectural reproduction, molding and doors, paneling, freestanding furniture, solid surface applications, high-pressure decorative laminate, and store fixtures.

**EU 01 Spray Booth 1-** Consists of one air assisted airless spray gun for manual operation.

- 1.1: Sealer  
Rated Capacity: 3.48 gallons/hr
- 1.2: Lacquer thinner  
Rated Capacity: 4.6 gallons/hr
- 1.3: Stain  
Rated Capacity: 1.52 gallons/hr
- 1.4: Lacquer thinner  
Rated Capacity: 1.53 gallons/hr
- 1.5: Primer  
Rated Capacity: 0.56 gallons/hr

**EU 01 Paint spray booth #1**  
**EU 02 Paint spray booth #2**  
**EU 03 Paint spray booth #3**

1.6: Make up Air Furnace  
Natural gas fired  
Rated Capacity: 1 MMBtu/hr

**EU 02 Spray Booth 2-** Consists of one air assisted airless spray gun for manual operation.

2.1: Sealer  
Rated Capacity: 3.48 gallons/hr

2.2: Lacquer thinner  
Rated Capacity: 4.6 gallons/hr

2.3: Stain  
Rated Capacity: 1.52 gallons/hr

2.4: Lacquer thinner  
Rated Capacity: 1.53 gallons/hr

2.5: Primer  
Rated Capacity: 0.56 gallons/hr

2.6: Air Make up Furnace  
Natural gas fired  
Rated Capacity: 1 MMBtu/hr

**EU 03 Spray Booth 3-** (Cefla Line) is an automatic finisher spray booth, has four spray guns, and is mostly enclosed with multiple fabric panel filters..

3.1: Primer  
Rated Capacity: 15 gallons/hr

3.2: Paint  
Rated Capacity: 15 gallons/hr

3.3: Stain  
Rated Capacity: 15 gallons/hr

3.4: Topcoat  
Rated Capacity: 15 gallons/hr

3.5: Sealer  
Rated Capacity: 15 gallons/hr

3.6: Additives/Thinners  
Rated Capacity: 15 gallons/hr

**EU 01 Paint spray booth #1**  
**EU 02 Paint spray booth #2**  
**EU 03 Paint spray booth #3**

**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.

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

**Precluded Regulations:**

401 KAR 52:020, Title V Permits

**Comments:**

- **401 KAR 63:002 Section 2(4)(z)**, 40 C.F.R. 63.800 to 63.808, Tables 1 to 6 (Subpart JJ), *National Emission Standards for Wood Furniture Manufacturing Operations*. This regulation is not applicable to this source due to the conditional major limitations.
- Trigger time is assumed 660.6 hours per year which corresponds to source wide allowable VOC emission limit 50 tons per year.
- EU 1.6: Make up Air Furnace, 401 KAR 59:015, New indirect heat exchangers is not applicable because Make up Air Furnace is not a boiler.
- EU 2.6: Clear Coat Oven, 401 KAR 59:015, New indirect heat exchangers is not applicable because Clear Coat Oven (direct heat exchangers is not a boiler).

EU 04 Wood working operation (rough cut) EU 05 Wood working operation (pre-prepped)				
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)	Engineering assessment	Baghouse & Dust collector (99% PM control efficiency)
	< 20% Opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly visual observation

**Initial Construction Date:** 9/2004

**Process Description:**

EU 04: Rough lumber is received and stored inside the building in a large, open storage area. Depending on the product being made the lumber is cut to the correct width with saws and run through an automatic molder.

EU 05: Wood sheets are delivered and stored inside the sheet products production line building. Depending on the product being made the sheets are then cut to size by saws, run through an edge banding machine, a CNC machining center for boring and routing, then sanding, drilling and dowelling.

**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.

**Comments:**

- Maximum throughput: 0.0091 ton/hr.
- Particulate emissions shall not equal or exceed 2.34 lb/hr. [401 KAR 59:010, Section 3(2)]
- EU04 and EU05 are the working working equipment previously listed at EP 06 and EP 07 in the permit. The wood working equipment EU numbers are updated in this renewal permit to match the KYEIS IDs.

**SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)**

**Testing Requirements/Results**

<b>Emission Unit(s)</b>	<b>Control Device</b>	<b>Parameter</b>	<b>Regulatory Basis</b>	<b>Frequency</b>	<b>Test Method</b>	<b>Permit Limit</b>	<b>Test Result</b>	<b>Thruput and Operating Parameter(s) Established During Test</b>	<b>Activity Graybar</b>	<b>Date of last Compliance Testing</b>
NA										

**Footnotes:**



**SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS**

**Table A - Group Requirements:**

<b>Emission and Operating Limit</b>	<b>Regulation</b>	<b>Emission Unit</b>
50 tpy of VOC emissions	To preclude the applicability of 401 KAR 52:020, <i>Title V Permits</i>	Source-wide
9.0 tpy of individual HAP emissions	To preclude 401 KAR 52:020 and major source status for HAP	Source-wide
22.5 tpy of combined HAP emissions	To preclude 401 KAR 52:020 and major source status for HAP	Source-wide
5.12 tpy of Ethylbenzene emissions	401 KAR 63:020	Source-wide
0.387 tpy of Naphthalene emissions	401 KAR 63:020	Source-wide

**Table B - Summary of Applicable Regulations:**

<b>Applicable Regulations</b>	<b>Emission Unit</b>
401 KAR 59:010, New process operations.	EP 01, 02, 03, 04, 05
401 KAR 63:020, Potentially hazardous matter or toxic substances.	EP 01, 02, 03

**Table C - Summary of Precluded Regulations:**

<b>Precluded Regulations</b>	<b>Emission Unit</b>
401 KAR 51:017, Prevention of significant deterioration of air quality	Source-wide
401 KAR 52:020, Title V Permits	Source-wide

**Table D - Summary of Non Applicable Regulations:**

<b>Non Applicable Regulations</b>	<b>Emission Unit</b>
N/A	

## **SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)**

### **Air Toxic Analysis**

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

The Division for Air Quality (Division) has performed AERMOD on January 8, 2019 of potentially hazardous substances (Benzene, Cumene, Ethyl Benzene, Formaldehyde, Manganese and Manganese Compounds, Methanol, Methyl Isobutyl Ketone, Naphthalene, Phenol, Toluene, Vinyl Acetate and Xylenes) that may be emitted by the facility based upon the permit limited process and emission rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the source wide emissions of Ethylbenzene shall not exceed 5.12 tpy and Naphthalene shall not exceed 0.387 tpy to assure compliance with the requirements of 401 KAR 63:020.

### **Single Source Determination**

N/A

**SECTION 5 - PERMITTING HISTORY**

<b>Permit</b>	<b>Permit Type</b>	<b>Activity#</b>	<b>Complete Date</b>	<b>Issuance Date</b>	<b>Summary of Action</b>	<b>PSD/Syn Minor</b>
F-09-002	Initial	APE20080001	11/28/2008	8/6/2009	Initial Operating Permit	N/A
F-14-025	Renewal	APE20140001	4/5/2014	9/19/2014	Renewal	Syn Minor
F-19-002	Renewal	APE20180001	1/14/2019	4/28/2019	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 <sub>x</sub>	– Nitrogen Oxides
NSR	– New Source Review
PM	– Particulate Matter
PM <sub>10</sub>	– Particulate Matter equal to or smaller than 10 micrometers
PM <sub>2.5</sub>	– Particulate Matter equal to or smaller than 2.5 micrometers
PSD	– Prevention of Significant Deterioration
PTE	– Potential to Emit
SO <sub>2</sub>	– Sulfur Dioxide
TF	– Total Fluoride (Particulate & Gaseous)
VOC	– Volatile Organic Compounds