From: Air.Pollution Control
To: APC Permitting
Subject: FW: SRN 32-0309 Koch Tenn Const. App 11.30.23
Date: Friday, December 1, 2023 9:58:07 AM
Attachments: 0171_001.pdf

From: Myron Nagurney <myron@kochtenninc.com>
Sent: Friday, December 1, 2023 8:22 AM
To: Air.Pollution Control <Air.Pollution.Control@tn.gov>; John Fuss <John.Fuss@tn.gov>; Sarosh Kaiser <Sarosh.Kaiser@tn.gov>
Cc: Rick Carlson <rick@kochandco.com>; Shea Cofer <shea@stevensehs.com>
Subject: [EXTERNAL] SRN 32-0309 Koch Tenn Const. App 11.30.23

Good morning all,

Please see attached construction application for Koch Tenn (ESRN 32-0309). This is being submitted in lieu of the minor modification request that was submitted on November 20, 2023.

Thank you,

Myron Nagurney
Office Manager
Koch Tennessee, Inc.
1701 Needmore Road
Whitesburg, TN 37891
Email: myron@kochtenninc.com
Office: **(423) 235-4442**
Fax: **(423) 373-1292**

From: NoReply email addresses <noreply@kochtenninc.com>
Sent: Friday, December 1, 2023 9:16 AM
To: Myron Nagurney <myron@kochtenninc.com>
Subject: Image from Koch Tenn Inc. - Do Not Reply

November 30, 2023

Michelle Owenby
Technical Secretary
Division of Air Pollution Control
Tennessee Department of Environment & Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243

Subject: Koch Tennessee, Inc.
ESRN 32-0309
Permit No. 978764 (Amendment 1)
Construction Application to add new Spray Machine on Source 02

Dear Ms. Owenby:

Koch Tennessee, Inc., (Koch) holds Title V construction permit number 978764 (A1) and submitted the Title V operating permit application on February 13, 2023. This letter submits a construction application to install an additional automatic spray machine on Source 02, which will increase the allowable particulate matter (PM) emissions. This application replaces the minor modification request submitted on November 20, 2023.

Description of Change – Source 02 – New Spray Machine

Source 02 is the Wood Cabinet Finishing and Coating Operations and consists of one dye machine, two spray booths, four automatic spray machines, and three electric flash-off ovens. The facility would like to install an additional automatic spray machine, with an electric flash-off oven. Additionally, a stack above the oven on Spray Machine #2 has been identified and is included in the updated process flow diagram. There will be no change to potential VOC emissions. However, particulate matter emissions will increase due to the addition of three stacks. Koch agrees to limit the Source 02 allowable PM emissions to 10.63 pounds per hour (lb/hr) or 46.56 tons per year (tpy).

Emissions Estimates – Source 02 – New Spray Machine

The installation results in an increase in allowable PM emissions. The current PM emission limitation is 9.4 pounds per hour (lb/hr) or 41.10 tons per year (tpy). The new allowable PM emission limitation will be 10.63 pounds per hour (lb/hr) or 46.56 tons per year (tpy). Associated calculations are attached.

I hereby certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

If you have questions or comments, please contact me at (423) 235-4442, or my consultant, Shea Cofer, at (615) 418-1414.

Sincerely,

Myron Nagurney

Myron Nagurney
Office Manager

Attachments

Construction Permit Application
And
Emission Calculations

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
INDEX OF AIR POLLUTION PERMIT APPLICATION FORMS

Section 1: Identification and Diagrams		
This application contains the following forms:	APC Form 1, Facility Identification	1
	APC Form 2, Operations and Flow Diagrams	1

Section 2: Emission Source Description Forms		Total number of this form
This application contains the following forms (one form for each incinerator, printing operation, fuel burning installation, etc.):	APC Form 3, Stack Identification	2
	APC Form 4, Fuel Burning Non-Process Equipment	
	APC Form 5, Stationary Gas Turbines or Internal Combustion Engines	
	APC Form 6, Storage Tanks	
	APC Form 7, Incinerators	
	APC Form 8, Printing Operations	
	APC Form 9, Painting and Coating Operations	1
	APC Form 10, Miscellaneous Processes	
	APC Form 33, Stage I and Stage II Vapor Recovery Equipment	
	APC Form 34, Open Burning	

Section 3: Air Pollution Control System Forms		Total number of this form
This application contains the following forms (one form for each control system in use at the facility):	APC Form 11, Control Equipment - Miscellaneous	
	APC Form 13, Adsorbers	
	APC Form 14, Catalytic or Thermal Oxidation Equipment	
	APC Form 15, Cyclones/Settling Chambers	
	APC Form 17, Wet Collection Systems	
	APC Form 18, Baghouse/Fabric Filters	

(OVER)

Section 4: Compliance Demonstration Forms		
		Total number of this form
This application contains the following forms (one form for each incinerator, printing operation, fuel burning installation, etc.):	APC Form 19, Compliance Certification - Monitoring and Reporting - Description of Methods for Determining Compliance	1
	APC Form 20, Continuous Emissions Monitoring	
	APC Form 21, Portable Monitors	
	APC Form 22, Control System Parameters or Operating Parameters of a Process	
	APC Form 23, Monitoring Maintenance Procedures	
	APC Form 24, Stack Testing	
	APC Form 25, Fuel Sampling and Analysis	
	APC Form 26, Record Keeping	1
	APC Form 27, Other Methods	
	APC Form 28, Emissions from Process Emissions Sources / Fuel Burning Installations / Incinerators	1
	APC Form 29, Emissions Summary for the Facility or for the Source Contained in This Application	1
	APC Form 30, Current Emissions Requirements and Status	1
	APC Form 31, Compliance Plan and Compliance Certification	1
	APC Form 32, Air Monitoring Network	

Section 5: Statement of Completeness and Certification of Compliance

I have reviewed this application in its entirety and to the best of my knowledge, and based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete. I have provided all the information that is necessary for compliance purposes and this application consists of 21 pages and they are numbered from page 1 to 21. The status of this facility's compliance with all applicable air pollution control requirements, including the enhanced monitoring and compliance certification requirements of the Federal Clean Air Act, is reported in this application along with the methods to be used for compliance demonstration.

Name and Title of Responsible Official	Telephone Number with Area Code
Myron Nagurney, Office Manager	(423) 235-4442
Signature of Responsible Official	**Date of Application**
Myron Nagurney	12/1/23

(For definition of responsible official, see instructions for APC Form 1)

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
FACILITY IDENTIFICATION

SITE INFORMATION			
1. Organization's legal name Koch Tenn., Inc.			For APC Use Only: APC company point no.
2. Site name (if different from legal name)			For APC Use Only: APC Log/Permit no.
3. Site address (St./Rd./Hwy.) 1701 Needmore Road			NAICS or SIC Code 2434
City or distance to nearest town Whitesburg		Zip code 37891	County name Hamblen
4. Site location (in Lat./Long)	Latitude 36 17'35"N		Longitude 83 09'17"W
CONTACT INFORMATION (RESPONSIBLE OFFICIAL)			
5. Responsible official contact Myron Nagurney			Phone number with area code 423-235-4442
6. Mailing address (St./Rd./Hwy.) same as above			Fax number with area code
City	State	Zip code	Email address myron@kochtenninc.com
CONTACT INFORMATION (TECHNICAL)			
7. Principal technical contact Myron Nagurney			Phone number with area code 423-235-4442
8. Mailing address (St./Rd./Hwy.) same as above			Fax number with area code
City	State	Zip code	Email address myron@kochtenninc.com
CONTACT INFORMATION (BILLING)			
11. Billing contact Myron Nagurney			Phone number with area code 423-235-4442
12. Mailing address (St./Rd./Hwy.) same as above			Fax number with area code
City	State	Zip code	Email address myron@kochtenninc.com

TYPE OF PERMIT REQUESTED

13. Permit requested for:

Initial application to operate:		Minor permit modification:	
Permit renewal to operate:		Significant modification:	
Administrative permit amendment:		Construction permit:	✓

(OVER)

HAZARDOUS AIR POLLUTANTS, DESIGNATIONS, AND OTHER PERMITS ASSOCIATED WITH FACILITY

14. Is this facility subject to the provisions governing prevention of accidental releases of hazardous air contaminants contained in Chapter 1200-03-32 of the Tennessee Air Pollution Control regulations? ☐ Yes ☑ No

If the answer is Yes, are you in compliance with the provisions of Chapter 1200-03-32 of the Tennessee Air Pollution Control regulations? ☐ Yes ☐ No

15. If facility is located in an area designated as "Non-Attainment" or "Additional Control", indicate the pollutant(s) for the designation.

N/A

16. List all valid Air Pollution permits issued to the sources contained in this application [identify all permits with most recent permit numbers and emission source reference numbers listed on the permit(s)].

Title V Construction Permit
Permit Number: 978764
ESRN: 32-0309-02 Wood Cabinet Finishing and Coating Operation

17. Page number: Revision number: Date of revision:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
OPERATIONS AND FLOW DIAGRAMS

1. Please list, identify, and describe briefly process emission sources, fuel burning installations, and incinerators that are contained in this application. Please attach a flow diagram for this application.

02: Wood Cabinet Finishing and Coating Operation

2. List all insignificant activities which are exempted because of size or production rate and cite the applicable regulations.

3. Are there any storage piles?

YES _____ NO X

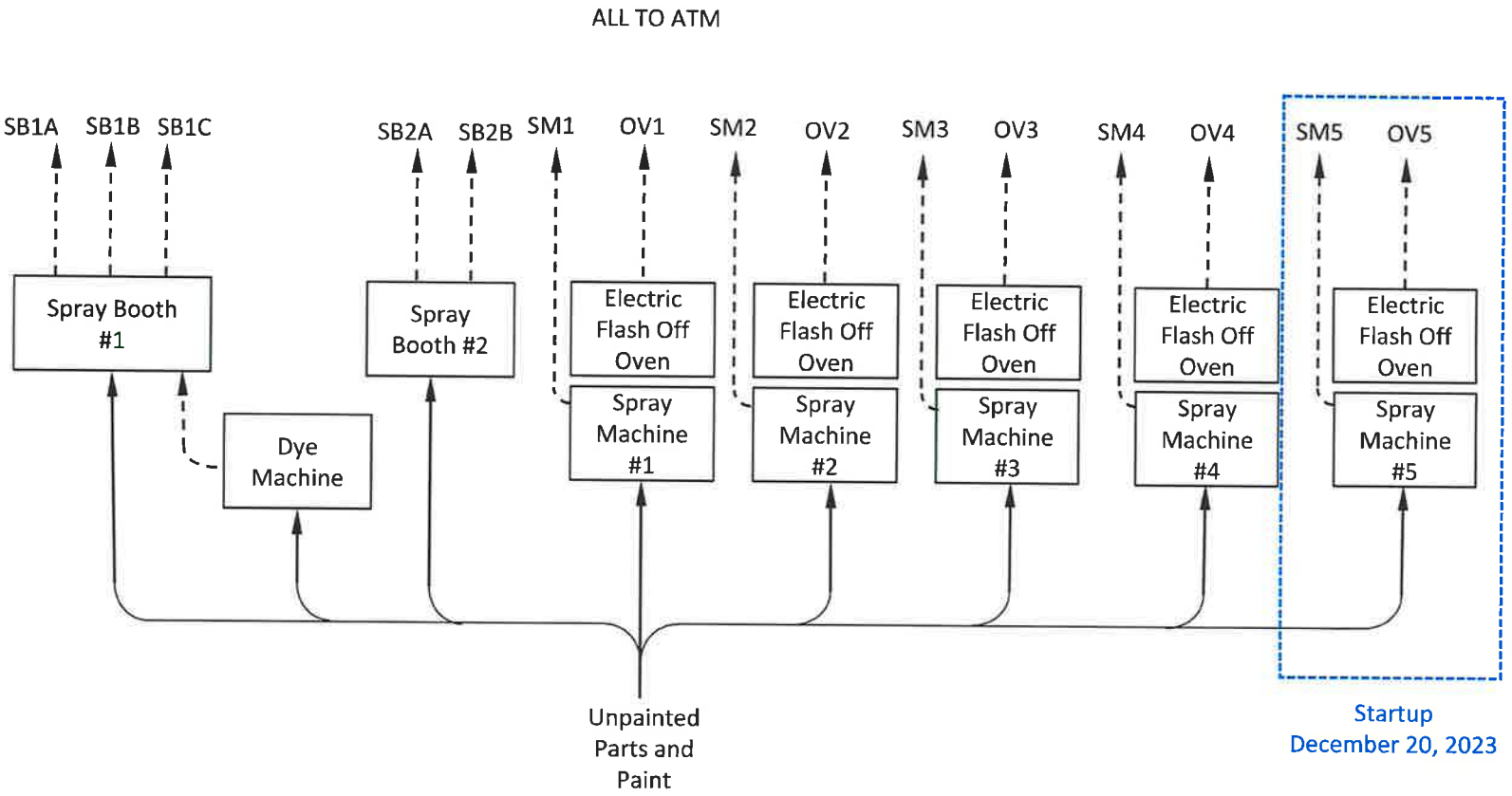
4. List the states that are within 50 miles of your facility.

KY, VA, NC

5. Page number: Revision Number: Date of Revision:

Process Flow

Air Emissions



Stack No.	SB1A	SB1B	SB1C	SB2A	SB2B	SM1	SM2	SM3	SM4	SM5	OV1	OV2	OV3	OV4	OV5
Stack Ht.	25'	25'	25'	25'	25'	28'	28'	28'	28'	28'	28'	28'	28'	28'	28'
Stack Dia.	2.5'	2.5'	2.5'	2.5'	2.5'	1.7'	1.7'	1.7'	1.7'	1.7'	1'	1'	1'	1'	1'
ACFM	7,500	7,500	7,500	7,500	7,500	3,800	3,800	3,800	3,800	3,800	2,000	2,000	2,000	2,000	2,000

STEVENSEHS CONSULTING

Koch Tenn., Inc.
Source 02: Finishing and Coating Operation

Process Flow Diagram
Revised: 11/16/2023

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Koch Tenn., Inc.

2. **Emission source (identify):**
02: Wood Cabinet Finishing and Coating Operation

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):
OV5

4. Stack height above grade in feet:
28

5. Velocity (data at exit conditions):
42 (Actual feet per second)

6. Inside dimensions at outlet in feet:
1

7. Exhaust flow rate at exit conditions (ACFM):
2,000

8. Flow rate at standard conditions (DSCFM):
1,853

9. Exhaust temperature:
110 Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):
5 Percent _____ Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only):
100 (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?
N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?
_____ Yes X No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: Revision Number: Date of Revision:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Koch Tenn., Inc.

2. **Emission source (identify):**
02: Wood Cabinet Finishing and Coating Operation

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):
SM5

4. Stack height above grade in feet:
28

5. Velocity (data at exit conditions):
28 (Actual feet per second)

6. Inside dimensions at outlet in feet:
1.7

7. Exhaust flow rate at exit conditions (ACFM):
3,800

8. Flow rate at standard conditions (DSCFM):
3,800

9. Exhaust temperature:
68 Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):
5 Percent _____ Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only):
68 (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?
N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?
_____ Yes X No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: Revision Number: Date of Revision:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
PAINTING AND COATING OPERATIONS

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:** Koch Tenn., Inc
2. Process description: 32-0309-02: Wood Cabinet Finishing and Coating Operation
3. Year of construction or last modification: 2023
4. Stack ID or flow diagram point identification (s): All source 02 stacks

If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.
If this printing operation is monitored for compliance, please attach the appropriate compliance demonstration form.

5. Normal operating schedule 24 Hrs./Day 7 Days/Wk. 365 Days/Yr.
6. Location of this operation in UTM coordinates: UTM Vertical: 36 17'35"N UTM Horizontal: 83 09'17"W
7. Oven curing (complete if applicable): Number of ovens: N/A Temperature of air contacting coated material as it leaves the oven (°F): _____
   Specify oven fuels: _____ Total maximum heat input to each oven: _____
8. Application technique and transfer efficiency (%): Spray booth with airless spray application. 60% Transfer Efficiency

COATINGS AND SOLVENTS

9. Complete the following table – Attach additional tables as needed – Fill in only the items necessary for determination of compliance with emission standard(s).

Identify coatings	Maximum Usage		Normal Usage	Coating Composition: Volume and weight percent as applied							Density of Solvent Fraction	Coating Density
				Solids		Solvents (VOCs)	Water		Exempt Solvent			
	Gal./Hr.	Gal./Mo.	Gal./Mo.	Vol. %	Wt. %	Wt.%	Vol.	Wt.	Vol.	Wt.	Lbs./Gal.	Lbs./Gal.
(See attached.)												
Total coatings												
List the Thinning Solvents used with the coatings identified above:												
(1):												
(2):												
Clean-up solvents:												
Other (specify):												

10. Page number: Revision Number: Date of Revision:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Koch Tenn., Inc.
2. Process emission source, fuel burning installation, or incinerator (identify): 32-0309-02: Wood Cabinet Finishing and Coating Operation
3. Stack ID or flow diagram point identification(s): All source 02 stacks

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- [ ] Continuous Emission Monitoring (CEM) - APC 20
  Pollutant(s):
- [ ] Emission Monitoring Using Portable Monitors - APC 21
  Pollutant(s):
- [ ] Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
  Pollutant(s):
- [ ] Monitoring Maintenance Procedures - APC 23
  Pollutant(s):
- [ ] Stack Testing - APC 24
  Pollutant(s):
- [ ] Fuel Sampling & Analysis (FSA) - APC 25
  Pollutant(s):
- [x] Recordkeeping - APC 26
  Pollutant(s): VOC, HAP
- [ ] Other (please describe) - APC 27
  Pollutant(s):

5. Compliance certification reports will be submitted to the Division according to the following schedule:
   Start date: one year after permit issuance
   And every 365 days thereafter.
6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
   Start date: six months after permit issuance
   And every 180 days thereafter.
7. Page number: Revision number: Date of revision:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Koch Tenn., Inc.

2. Stack ID or flow diagram point identification(s):
All source 02 stacks

3. Emission source (identify):
32-0309-02: Wood Cabinet Finishing and Coating Operation

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored:
VOC and HAP

5. Material or parameter being monitored and recorded:
Coating material usage and VOC and HAP content.

6. Method of monitoring and recording:
Records of the monthly and annual usage of each coating material and their associated VOC and HAP content/emissions will be maintained.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
Monthly and annual records.

8. Page number: Revision number: Date of revision:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Stack ID or flow diagram point identification(s):
Koch Tenn., Inc.	All source 02 stacks

3. Process emission source / Fuel burning installation / Incinerator (identify):
32-0309-02: Wood Cabinet Finishing and Coating Operation

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	46.56		46.56	
(Fugitive Emissions)				
Sulfur Dioxide				
(Fugitive Emissions)				
Volatile Organic Compounds	249		240	
(Fugitive Emissions)				
Carbon Monoxide				
(Fugitive Emissions)				
Lead				
(Fugitive Emissions)				
Nitrogen Oxides				
(Fugitive Emissions)				
Total Reduced Sulfur				
(Fugitive Emissions)				
Mercury				
(Fugitive Emissions)				

(Continued on next page)

(Continued from last page)

AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos				
(Fugitive Emissions)				
Beryllium				
(Fugitive Emissions)				
Vinyl Chloride				
(Fugitive Emissions)				
Fluorides				
(Fugitive Emissions)				
Gaseous Fluorides				
(Fugitive Emissions)				
Greenhouse Gases in CO_2 Equivalents				

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Xylene	18.07		18.07	
Toluene	24.06		24.06	
Ethyl Benzene	2.59		2.59	
Methanol	7.20		7.20	
Cumene	1.11		1.11	
Naphthalene	0.25		0.25	
Methyl Isobutyl Ketone	0.14		0.14	
Formaldehyde	0.008		0.008	
TOTAL HAP	53.43		53.43	

6. Page number: Revision number: Date of revision

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
EMISSION SUMMARY FOR THE FACILITY OR FOR THE SOURCES CONTAINED IN THIS APPLICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Koch Tenn., Inc.

EMISSIONS SUMMARY TABLE – CRITERIA AND SELECTED POLLUTANTS

2. Complete the following emissions summary for regulated air pollutants at this facility or for the sources contained in this application.

Air Pollutant	Summary of Maximum Allowable Emissions		Summary of Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour- Item 4, APC 28)	Tons per Year	Reserved for State use (Pounds per Hour- Item 4, APC 28)
Particulate Matter (TSP)	70.95		70.95	
Sulfur Dioxide	0.32		0.32	
Volatile Organic Compounds	249		240.74	
Carbon Monoxide	11.17		11.17	
Lead	0.001		0.001	
Nitrogen Oxides	9.97		9.97	
Total Reduced Sulfur				
Mercury				
Asbestos				
Beryllium				
Vinyl Chlorides				
Fluorides				
Gaseous Fluorides				
Greenhouse Gases in CO_2 Equivalents	2,456		2,456	

(Continued on next page)

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EMISSIONS SUMMARY TABLE – HAZARDOUS AIR POLLUTANTS

3. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s) at this facility or for the sources contained in this application.

Air Pollutant & CAS	Summary of Maximum Allowable Emissions		Summary of Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour- Item 5, APC 28)	Tons per Year	Reserved for State use (Pounds per Hour- Item 5, APC 28)
Total HAPs	53.43		53.43	
(See attached calculations				
for individual HAPs)				

4. Page number: Revision number: Date of revision:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
CURRENT EMISSIONS REQUIREMENTS AND STATUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Emission source number
Koch Tenn., Inc.	32-0309-02

3. Describe the process emission source / fuel burning installation / incinerator.

02: Wood Cabinet Finishing and Coating Operation

EMISSIONS AND REQUIREMENTS

4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	VOC	TAPCR 1200-03-18-.02(2)	249 tpy	240 tpy	In
	PM	TAPCR 1200-03-07-.01(5)	10.63 lb/hr	10.63 lb/hr	In
	Visible Em.	TAPCR 1200-03-05-.01(1)	20%	20%	In

10. Other applicable requirements (new requirements that apply to this source during the term of this permit)

11. Page number: Revision number: Date of revision:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
COMPLIANCE PLAN AND COMPLIANCE CERTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Koch Tenn., Inc.

2. List all the process emission source(s) or fuel burning installation(s) or incinerator(s) that are part of this application.
32-0309-02: Wood Cabinet Finishing and Coating Operation

COMPLIANCE PLAN AND CERTIFICATION

3. Indicate that source(s) which are contained in this application are presently in compliance with all applicable requirements, by checking the following:

_____ A. Attached is a statement of identification of the source(s) currently in compliance. We will continue to operate and maintain the source(s) to assure compliance with all the applicable requirements for the duration of the permit.

✔ B APC 30 form(s) includes new requirements that apply or will apply to the source(s) during the term of the permit. We will meet such requirements on a timely basis.

4. Indicate that there are source(s) that are contained in this application which are not presently in full compliance, by checking both of the following:

N/A A. Attached is a statement of identification of the source(s) not in compliance, non-complying requirement(s), brief description of the problem, and the proposed solution.

N/A B. We will achieve compliance according to the following schedule:

Action	Deadline

Progress reports will be submitted:

Start date: _____ and every 180 days thereafter until compliance is achieved.

5. State the compliance status with any applicable compliance assurance monitoring and compliance certification requirements that have been promulgated under section 114(a)(3) of the Clean Air Act as of the date of submittal of this APC 31.
Source is in compliance with all applicable permit requirements.

6. Page number: Revision number: Date of revision:

Facility Wide Emissions Summary

Source	PM EMISSIONS (TPY)	NOx EMISSIONS (TPY)	SOx EMISSIONS (TPY)	CO EMISSIONS (TPY)	VOC EMISSIONS (TPY)	HAZARDOUS AIR POLLUTANTS											
						Xylene 1330-20-7 (TPY)	Toluene 108-88-3 (TPY)	Ethyl Benzene 100-41-4 (TPY)	Methanol 67-56-1 (TPY)	Cumene 98-82-8 (TPY)	Naphthalene 91-20-3 (TPY)	Methyl Isobutyl Ketone 108-10-1 (TPY)	Formaldehyde 50-00-0 (TPY)	Lead 7439-92-1 (TPY)	Chromium (TPY)	Cobalt (TPY)	Total HAPs (TPY)
02 - Wood Finishing	46.56	--	--	--	240.00	18.07	24.06	2.59	7.20	1.11	0.25	0.14	0.008	--	0.0	0.0	53.43
03 - Wood Working 1	14.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04 - Seasonal Boiler No. 2	4.89	2.58	0.29	7.03	0.20	--	--	--	--	--	--	--	--	0.001	--	--	0.001
Scuff Sander (insig)	4.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propane Heaters (insig)	0.39	7.4	0.0	4.1	0.54	--	--	--	--	--	--	--	--	--	--	--	--
Total	70.95	9.97	0.32	11.17	240.74	18.07	24.06	2.59	7.20	1.11	0.25	0.14	0.01	0.00	0.00	0.00	53.43

KOCH TENN., INC.
Whitesburg, Tennessee
Wood Finishing (ESRN 32-0309-02)
PM Emission Calculations

hours of operation 8760

Flow Rate (ACFM)	Dia (ft)	Exit Velocity (ft/sec)	Exit Temp (F)	Moisture Content %	Flow Rate (DSCFM)	Exhaust PM Conc. (gr/dscf)	PM	
							lb/hr	tpy
66500.0	2.5	225.9	80	5%	62005	0.02	10.63	46.56

1. ACFM based on the following flow rates:
   SB1A, SB1B, SB1C, SB2A, SB2B - 7,500 acfm each
   SM1, SM2, SM3, SM4, SM5 - 3,800 acfm each
   OV1, OV2, OV3, OV4, OV5 - 2,000 acfm each
2. lb/hr = dscfm x 0.02 gr/dscf x 60 min/hr / 7,000 gr/lb

KOCH TENN., INC.
Whitesburg, Tennessee
Wood Finishing (ESRN 32-0309-02)
VOC/HAP Emission Calculations

Hours of Operation 8760

MATERIAL NAME	Product No.	Annual Usage (Gal)	Density (lb/gal)	VOC Content (% Weight)	VOC Emissions (lbs/yr)	HAZARDOUS AIR POLLUTANTS																			
						Xylene 1330-20-7 (%)	Xylene 1330-20-7 (lb/yr)	Toluene 108-88-3 (%)	Toluene 108-88-3 (lb/yr)	Ethyl Benzene 100-41-4 (%)	Ethyl Benzene 100-41-4 (lb/yr)	Methanol 67-56-1 (%)	Methanol 67-56-1 (lb/yr)	Cumene 98-82-8 (%)	Cumene 98-82-8 (lb/yr)	Naphthalene 91-20-3 (%)	Naphthalene 91-20-3 (lb/yr)	Methyl Isobutyl Ketone 108-10-1 (%)	Methyl Isobutyl Ketone 108-10-1 (lb/yr)	Formaldehyde 50-00-0 (%)	Formaldehyde 50-00-0 (lb/yr)	Chromium (%)	Chromium (lb/yr)	Cobalt (%)	Cobalt (lb/yr)	Total (lbs/yr)
Golden Hickory Stain	S64XXN10154	375	7.25	86.90%	2199.5	1.00%	27.2	0.00%	0.0	0.10%	2.7	0.00%	0.0	1.00%	27.2	2.00%	54.4	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	111.5
Mocha Stain	S64XXN14023	375	7.37	68.00%	1879.4	0.00%	0.0	0.00%	0.0	0.10%	2.8	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	2.8
Java Stain	S64XXN14666	375	6.37	86.90%	2314.7	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.0
Corcovan Stair	S64R15	0	7.10	76.10%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.0
Van Dyke Brown Glaze	S66N11	50	7.72	62.90%	242.8	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.0
Brown Glaze	S66XXN13605	50	8.80	51.90%	228.4	0.00%	0.0	0.00%	0.0	0.10%	0.4	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.4
Black Dye	S61XXN13947	1050	5.73	41.50%	2939.7	0.00%	0.0	11.00%	777.3	9.00%	0.0	5.00%	353.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	1130.6
Brown Dye	S61XXN14183	1675	6.64	40.40%	4493.3	0.00%	0.0	12.00%	1334.6	0.00%	0.0	6.00%	667.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	2002.0
Purple Dye	S61XXR14193	50	8.65	40.50%	134.7	0.00%	0.0	12.00%	39.9	0.00%	0.0	6.00%	20.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	59.9
Olive Varnish	H66XXG13410	0	8.65	49.10%	0.0	8.00%	0.0	0.00%	0.0	1.00%	0.0	2.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.0
White Varnish	H66XXW13411	17545	8.84	57.50%	81476.3	8.00%	12407.8	0.00%	0.0	1.00%	1551.0	2.00%	3102.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	17060.8
Pearl Varnish	H66XXW14433	6030	8.85	47.40%	25295.2	8.00%	4269.2	0.00%	0.0	1.00%	533.7	2.00%	1067.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	5870.2
Antique White Varnish	H66XXH13073	250	8.85	47.40%	1048.7	8.00%	177.6	0.00%	0.0	1.00%	22.1	2.00%	44.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	243.4
Black Varnish	H66R22	1485	8.12	92.00%	6270.3	9.00%	1055.2	0.00%	0.0	2.00%	241.2	2.00%	241.2	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	1567.6
Lacquer Thinner	K119-SW	20200	6.64	79.10%	106095.2	5.00%	6706.4	33.00%	44262.2	0.80%	1073.0	4.00%	5365.1	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	57456.8
Varnish	V84FL0027-27	16000	7.68	60.40%	72289.7	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.0
Catalyst	V66V21	1655	8.01	59.30%	7861.1	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.0
Barsol	A-2960	1250	6.83	90.00%	7796.3	16.00%	1396.0	15.00%	1299.4	4.00%	346.5	5.00%	433.1	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	2.00%	265.1	0.00%	0.0	265.1
Dark Stain	S64XXN10070	885	7.42	76.50%	5030.1	1.00%	85.7	0.00%	0.0	0.10%	8.6	0.00%	0.0	1.00%	85.7	2.00%	171.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	351.4
Medium Stain	S64XXN10619	525	7.43	91.30%	3544.6	1.00%	39.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	1.00%	65.7	2.00%	131.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	236.2
Brandywine Stain	S64XXN13940	240	7.28	73.00%	1275.5	0.00%	0.0	0.00%	0.0	0.10%	1.7	0.00%	0.0	3.00%	117.0	6.00%	234.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	352.7
Pigmented Conversion Varnish, Java	H66XXB15768	300	7.93	55.11%	1311.0	7.00%	166.5	0.00%	0.0	1.00%	23.8	2.00%	47.6	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	237.9
Wiping Stain, Stone	S64XXA15710	30	7.21	82.66%	178.8	21.00%	45.4	0.00%	0.0	4.00%	8.7	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	54.1
Pigmented Conversion Varnish, pewter/fog	H65XXA15770	3294	8.90	47.08%	13801.9	7.00%	2052.2	0.00%	0.0	1.00%	293.2	2.00%	586.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	2931.7
Pigmented Conversion Varnish, Oyster	H66XXA15259	4674	8.85	47.34%	19584.1	8.00%	2009.2	0.00%	0.0	1.00%	413.6	2.00%	827.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	3250.1
Sher-Wood Wiping Stain, Koch Spice	S64XXN14053-4343	1500	6.68	65.42%	6555.0	0.00%	0.0	0.00%	0.0	0.10%	10.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	10.0
Barsol A-5255	A-5255	5996	6.09	99.60%	36570.9	0.00%	0.0	0.00%	1.6	0.00%	0.0	0.48%	185.9	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	187.4
Sher-Wood Pigmented Conversion Varnish, Taupe	H66XXN16158-4343	930	8.34	85.00%	6825.5	7.50%	581.7	0.00%	0.0	1.50%	116.3	2.50%	193.9	20.00%	1551.2	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	2449.2
Sher-Wood SB Stain, Koch Driftwood	S64SBN16222-4343	120	8.93	75.00%	802.8	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.0
Sher-Wood Pigmented Conversion Varnish, kraftmaid blue	H66XXL16582-4343	2445	8.09	83.00%	12461.1	6.47%	1299.7	0.00%	0.0	1.12%	221.5	2.34%	462.8	0.31%	61.3	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	37.5
Sher-Wood Pigmented Conversion Varnish, Ivory	H66XXW16899-5232	2087	8.56	47.70%	8755.3	8.00%	1458.4	0.00%	0.0	1.00%	183.3	2.00%	366.7	0.15%	27.5	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	2033.3
Sher-Wood SB Stain, Koch Stone 05/11/18	S64SBN17066-5232	405	8.33	66.30%	2236.7	2.00%	67.5	0.00%	0.0	0.00%	0.0	0.00%	0.0	3.00%	101.2	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.05%	2.1	0.00%	0.0	2046.7
Sher-Wood SB Stain, Koch Stone 05/11/18	S61SBA17065-5232	1020	7.92	73.10%	5905.3	2.00%	161.6	0.00%	0.0	0.00%	0.0	0.00%	0.0	3.00%	242.4	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	404.0
Pre-Reduced Catalyst, KOCH REDUCED CATALYST	V66XXV15749-5232	150	7.54	85.50%	902.9	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	3.00%	243.4	0.60%	48.6	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	292.0
Methyl Amyl Ketone (MAK)	R6KJ0	525	6.79	100.00%	4225.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	452.4
N-Butyl Acetate	123-86-4	2500	7.33	100.00%	18329.2	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.0
Sher-Wood Pigmented Conversion Varnish, Mediterranean	H66XXL17402-4343	250	8.28	51.50%	1066.1	7.00%	144.9	0.00%	0.0	1.00%	20.7	2.00%	41.4	0.30%	6.2	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	213.2
Sher-Wood Dye Stain, Frontier Dye	S61XXN15910-4343	500	6.67	40.20%	1340.7	0.00%	0.0	12.00%	400.2	0.00%	0.0	6.00%	200.1	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	600.3
Sher-Wood Pigmented Conversion Varnish, Dusk	H66XXA17618-4343	1125	8.88	47.50%	4745.3	7.00%	699.3	0.00%	0.0	1.00%	99.9	2.00%	199.8	0.20%	20.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	607.0
ANNUAL TOTAL (lbs)		97596			480000.0		36140.0		48115.1		5173.0		14405.8		2219.7		505.69		274.64		15.95		6.67	0.00	106856.5
ANNUAL TOTAL (tons)					240.00		18.07		24.06		2.59		7.20		1.11		0.25		0.14		7.97E-03		3.34E-03	0.00E+00	53.43
HOURLY TOTAL (LBS)*					54.79		4.13		5.49		0.59		1.64		0.25		0.06		0.03		1.82E-03		7.61E-04	0.00E+00	51.37

*Hourly emissions are calculated based on 2080 hours per year to align with expected production rates

KOCH TENN., INC.

Product Specifications

Emission Source 32-0309-02

Product Name	Product No.	Density (lb/gal)	VOC (%)	VOC (lb/gal)	Xylene 1330-20-7 (%)	Xylene 1330-20-7 (lb/gal)	Toluene 108-88-3 (%)	Toluene 108-88-3 (lb/gal)	Ethyl Benzene 100-41-4 (%)	Ethyl Benzene 100-41-4 (lb/gal)	Methanol 67-56-1 (%)	Methanol 67-56-1 (lb/gal)	Cumene 98-82-8 (%)	Cumene 98-82-8 (lb/gal)	Naphthalene 91-20-3 (%)	Naphthalene 91-20-3 (lb/gal)	Methyl Isobutyl Ketone 108-10-1 (%)	Methyl Isobutyl Ketone 108-10-1 (lb/gal)	Formaldehyde 50-00-0 (%)	Formaldehyde 50-00-0 (lb/gal)	Chromium Compound (%)	Chromium Compound (lb/gal)	Cobalt Compound (%)	Cobalt Compound (lb/gal)
Golden Hickory Stain	S64XXN10154	7.25	80.90%	5.87	1.00%	0.07	0.00%	0.00	0.10%	0.01	0.00%	0.00	1.00%	0.07	2.00%	0.15	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Mocha Stain	S64XXN14023	7.37	68.00%	5.01	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Java Stain	S64XXN14666	6.37	96.90%	6.17	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Cordovan Stain	S64R15	7.10	76.10%	5.40	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Van Dyke Brown Glaze	S66N11	7.72	62.90%	4.86	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Brown Glaze	S66XXN13605	8.80	51.90%	4.57	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Black Dye	S61XXN13947	6.73	41.60%	2.80	0.00%	0.00	11.00%	0.74	0.00%	0.00	5.00%	0.34	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Brown Dye	S61XXN14183	6.54	40.40%	2.68	0.00%	0.00	12.00%	0.80	0.00%	0.00	6.00%	0.40	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Purple Dye	S61XXR14193	6.65	40.50%	2.69	0.00%	0.00	12.00%	0.80	0.00%	0.00	6.00%	0.40	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Cranberry Varnish	H66XXR14509	8.35	46.70%	3.90	2.00%	0.17	0.00%	0.00	3.00%	0.25	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Olive Varnish	H66XXG13410	8.65	49.10%	4.25	8.00%	0.69	0.00%	0.00	1.00%	0.09	2.00%	0.17	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
White Varnish	H66XXW13411	8.84	52.50%	6.67	8.00%	0.71	0.00%	0.00	1.00%	0.09	2.00%	0.18	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Pearl Varnish	H66XXW14433	8.85	47.40%	6.51	8.00%	0.71	0.00%	0.00	1.00%	0.09	2.00%	0.18	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Antique White Varnish	H68XXH13073	8.85	47.40%	4.61	8.00%	0.71	0.00%	0.00	1.00%	0.09	2.00%	0.18	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Black Varnish	H66B22	8.12	52.00%	6.62	9.00%	0.73	0.00%	0.00	1.00%	0.09	2.00%	0.18	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Lacquer Thinner	K119-SW	6.64	79.10%	0.33	5.00%	0.33	33.00%	2.19	0.80%	0.05	4.00%	0.27	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Varnish	V84FL0027-27	7.48	60.40%	4.52	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Catalyst	V66V21	8.01	59.30%	4.75	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Barsol	A-2360	6.93	90.00%	6.24	16.00%	1.11	15.00%	1.04	4.00%	0.28	5.00%	0.35	0.00%	0.00	0.00%	0.00	2.00%	0.16	0.00%	0.00	0.00%	0.00	0.00%	0.00
Dark Stain	S64XXN10070	7.42	76.60%	5.68	1.00%	0.07	0.00%	0.00	0.10%	0.01	0.00%	0.00	1.00%	0.07	2.00%	0.15	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Cinnamon Stain	S64XXN10619	7.48	75.30%	5.63	2.00%	0.15	0.00%	0.00	0.10%	0.01	0.00%	0.00	2.00%	0.15	1.00%	0.07	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Medium Stain	S64XXN10619	7.43	91.90%	6.83	1.00%	0.07	0.00%	0.00	0.00%	0.00	0.00%	0.00	3.00%	0.22	6.00%	0.45	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Brandymix Stain	S64XXN13940	7.28	73.00%	5.31	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Autumn Stain	S64XXN11113	7.20	85.00%	6.12	3.00%	0.22	0.00%	0.00	1.00%	0.07	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Pigmented Conversion Varnish, Java	H66XXB15768	7.93	55.11%	4.37	7.00%	0.56	0.00%	0.00	1.00%	0.08	2.00%	0.16	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Wiping Stain, Stone	S64XXA15710	7.21	82.66%	5.96	21.00%	1.51	0.00%	0.00	4.00%	0.28	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Pigmented Conversion Varnish, pewter/fog	H68XXA15770	8.90	47.08%	4.19	7.00%	0.62	0.00%	0.00	1.00%	0.09	2.00%	0.18	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Pigmented Conversion Varnish, Oyster	H66XXA15259	8.85	47.34%	4.19	8.00%	0.71	0.00%	0.00	1.00%	0.09	2.00%	0.18	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood Pigmented Conversion Varnish, Koch's Cocoa	H66XXB15768-4343	7.93	55.11%	4.37	7.00%	0.56	0.00%	0.00	1.00%	0.08	2.00%	0.16	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood Wiping Stain, Koch Spice	S64XXN14053-4343	6.68	85.42%	5.72	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Barsol A-5255	A-5255	6.92	99.60%	6.89	0.00%	0.00	0.004%	0.00	0.00%	0.00	0.48%	0.03	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.06%	0.00
Sher-Wood Pigmented Conversion Varnish, Taupe	H66XXN16155-4343	8.34	88.00%	7.34	7.50%	0.63	0.00%	0.00	1.50%	0.13	2.50%	0.21	20.00%	1.67	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Koch Driftwood	S64SBN16222-4343	8.92	75.00%	6.69	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	3.50%	0.31	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00
Sher-Wood Pigmented Conversion Varnish, kraftmaid blue	H66XXL16562-4343	8.09	63.00%	5.10	6.47%	0.52	0.00%	0.00	1.12%	0.09	2.34%	0.19	0.31%	0.03	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Mocha	S64SBN16140-5232	7.14	75.60%	5.63	6.00%	0.43	0.00%	0.00	1.00%	0.07	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00
Sher-Wood Pigmented Conversion Varnish, Ivory	H66XXW16899-5232	8.86	47.70%	4.24	8.00%	0.71	0.00%	0.00	1.00%	0.09	2.00%	0.18	0.15%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Koch Driftwood 05/11/18	S64SBN17068-5232	8.33	66.30%	5.52	2.00%	0.17	0.00%	0.00	0.00%	0.00	0.00%	0.00	3.00%	0.25	0.00%	0.00	0.00%	0.00	0.05%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Koch Stone 05/11/18	S61SBA17065-5232	7.92	73.10%	5.79	2.00%	0.16	0.00%	0.00	0.00%	0.00	0.00%	0.00	3.00%	0.24	0.60%	0.05	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Pre-Reduced Catalyst, KOCH REDUCED CATALYST	V66XXV15749-5232	7.04	85.50%	6.02	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.90%	0.06	0.00%	0.00	0.00%	0.00	0.00%	0.00
Methyl Amyl Ketone (MAK)	R6K30	6.76	100.00%	6.76	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
N-Butyl Acetate	123-86-4	7.33	100.00%	7.33	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood Pigmented Conversion Varnish, Mediterranean	H66XXL17402-4343	8.28	51.50%	4.26	7.00%	0.58	0.00%	0.00	1.00%	0.08	2.00%	0.17	0.30%	0.02	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, JKGray (Silverwood)	S64SBA17621-4343	7.47	70.90%	5.30	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Stone 50/50 Mix	S64SCA17649-4343	7.49	75.00%	5.62	2.00%	0.15	0.00%	0.00	0.00%	0.00	0.00%	0.00	2.00%	0.15	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Pecan Wipe Stain	S64SBN17565-4343	6.78	84.20%	5.71	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.20%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Sand	S64SBW17253-4343	8.40	72.80%	6.12	2.00%	0.17	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.60%	0.05	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood Dye Stain, Frontier Dye	S81XXN16910-4343	6.67	40.20%	2.68	0.00%	0.00	12.00%	0.80	0.00%	0.00	6.00%	0.40	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Frontier Stain	S64SBN16772-4343	7.85	56.20%	4.30	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.20%	0.01	0.00%	0.00
Sher-Wood Pigmented Conversion Varnish, Dusk	H66XXA17618-4343	8.88	47.50%	4.22	7.00%	0.62	0.00%	0.00	1.00%	0.09	2.00%	0.18	0.20%	0.02	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.20%	0.02
Clear Tone Finish Lacquer Matte Aerosol	102-0421	6.52	90.80%	5.92	0.16%	0.01	5.16%	0.34	0.05%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Colored Lacquer Enamel Antique White Aerosol	105-3892	6.92	77.02%	5.33	0.36%	0.02	4.79%	0.33	0.18%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Colored Lacquer Enamel Pearl Aerosol	105-3893	7.16	78.91%	5.65	0.00%	0.00	5.56%	0.40	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Colored Lacquer Enamel Black Aerosol	105-3894	6.47	85.01%	5.50	0.98%	0.06	5.30%	0.34	0.20%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Colored Lacquer Enamel Fog Aerosol	105-3895	6.85	84.53%	5.79	0.00%	0.00	6.09%	0.42	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Colored Lacquer Enamel White Aerosol	105-3896	6.99	81.97%	5.73	0.00%	0.00	5.28%	0.37	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Colored Lacquer Enamel Oyster Aerosol	105-3897	7.14	79.41%	5.67	0.00%	0.00	5.58%	0.40	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.11%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00
Colored Lacquer Enamel Cocoa Aerosol	105-4025	6.52	88.37%	5.85	0.00%	0.00	6.36%	0.42	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Tone Finish Toner Stone Aerosol	105-4026	6.42	86.60%	5.56	1.04%	0.07	5.59%	0.36	0.21%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Finish Toner Java Aerosol	105-4027	6.46	85.60%	5.53	1.02%	0.07	5.42%	0.35	0.20%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Colored Lacquer Enamel Taupe Aerosol	105-4106	7.20	78.33%	5.64	0.00%	0.00	5.45%	0.39	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Koch Almond	S64SBN18238-4343	7.24	76.20%	5.52	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Koch Brandy	S64SBN16056-4343	7.45	40.90%	3.05	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, Koch Russet	S64SBN18239-4343	6.91	81.30%	5.62	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	5.00%	0.37	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sher-Wood SB Stain, hiawatha stone	S64SBA16138-4343	7.18	75.60%	5.43	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
H66 Kemvar 80 Conv. Varnish Foxhall Green	104272379 29287135	8.77	44.10%	3.87	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	2.00%	0.14	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
H66 Kemvar 80 Conv. Varnish Smoky Blue	H66WNL16352-794343	8.88	43.40%	3.85	0.00%	0.00	0.00%	0.00	0.90%	0.08	0.00%	0.00	0.90%	0.08	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Koch Coffee	S64WXN17522	8.37	3.30%	0.28	0.00%	0.00	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.10%	0.01	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Koch Pebble	S64WXA17538	8.01	1.10%	0.09	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Saddle	S61XXN17564	8.49	0.02%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.03%	0.00	0.00%	0.00
Koch Espresso	S64WXN17338	7.23	5.70%	0.41	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00