

Pollutant Information					
Pollutant	CMS Major (Title V)	CMS Minor (SM-80)	Other*	Attainment	Non-Attainment
VOM	✓				✓
SO2					
NOx					
CO					
CO2					
Individual HAP					
Total HAPs					
Pb					
PM10					
PM2.5					
<p>HAP Information: Pursuant to Section 39.5(7)(a) of the Act, the emissions of HAPs from the source shall be less than 10 tons/year for each individual HAP and 25 tons/year for all HAPs combined. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). This condition is being imposed so that the source is not a major source of HAP emissions. The Permittee shall fulfill the applicable testing, recordkeeping, and reporting requirements.</p> <p>*PTE is less than 80% of the major source threshold level.</p>					

Permit Information		
Current Operating Permit (or Construction Permit if No Operating Permit Issued):		
Type	Permit #	Date Issued
CAAPP	95120085	06/8/2015
Permits Issued Since Issuance of Last Operating Permit: N/A		
Type	Permit #	Date Issued
Pending Permits: N/A		
Type	Permit #	Date Received

Report Review		
Annual Compliance Certification:		
Report Year	Date Received	Status/Comments
2014	04/30/2015	Compliance
Annual Emission Report:		
Report Year	Date Received	Status/Comments
2014	04/30/2015	None

INSERT AER INFORMATION HERE

ID Number	043110AAC			Name	Sterigenics US LLC		
Year	Pollutant Code	Emission Type	Emission (Tons/Yr)				
2014	CO	FRPT	1.550000				
2014	CO2	FRPT	2.999.500000				
2014	ETO	FRPT	2.540000				
2014	METHANE	FRPT	0.069000				
2014	N2O	FRPT	0.047000				
2014	NH3	FRPT	0.049000				
2014	NOX	FRPT	2.540000				
2014	PART	FRPT	0.200000				
2014	PM10	FRPT	0.200000				
2014	PM2.5	FRPT	0.200000				
2014	PO	FRPT	0.017000				
2014	SO2	FRPT	0.008000				
2014	VOM	FRPT	2.560000				

Stack Test:

Acid Water Scrubber with Dry Bed Reactor Willowbrook I & II
 Date stack test conducted: January 23 & 24, 2003
 Results of Stack Test: Control Efficiency Over 99.9 %

Other Compliance Reports:

Report Type	Reporting Period	Date Received	Status/Comments
N/A			

Compliance and Enforcement History

There have been no non-compliance issues in recent history.

Inspection Type and Scope

Inspection Purpose	<input checked="" type="checkbox"/> Work Plan <input type="checkbox"/> Request <input type="checkbox"/> Complaint <input type="checkbox"/> Other			
Staff Present/Title	None			
Inspection Type	<input checked="" type="checkbox"/> FCE <input type="checkbox"/> PCE			
FCE scope if multiple PCEs	PCE Date:	N/A	Scope of PCE:	N/A
PCE Scope	N/A			

Inspection Conditions

Inspection Date:	03/18/2016	Arrival Time:	9:55 am	Departure time:	12:45 pm
------------------	------------	---------------	---------	-----------------	----------

Weather Conditions	Sky: Overcast	Winds: S @ 5 mph	Temperature: 36 °F
Persons Interviewed	Kevin Wagner		
Off-site Surveillance	No odors were detected offsite.		

Inspection Communications	
Date Information Requested	Date of inspection
Date Information Received	Date of inspection
Records Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Source and Process Description

The source is a medical sterilization facility. This sterilization only facility receives and processes primarily medical supplies and pharmaceuticals in addition to treating spices. The sterilization facility utilizes ethylene oxide as the principle sterilant gas, although propylene oxide is sometimes used. All sterilizer vacuum pumps exhaust to a wet (acid) scrubber. After leaving the sterilizing chambers, the product aerates or degasses without any vacuum in one of the aeration rooms. The product remains in aeration for approximately 18- 24 hours then is moved to a segregated post-processing area. Aeration is not initiated for those products that are sterilized using the CyclEOne Cycle. For purposes of the CAAPP, the Sterigenics Willowbrook I facility located at 7775 Quincy Street is considered a single source with the Sterigenics Willowbrook II facility, located at 830 Midway Drive. The Permittee have elected to obtain a combined CAAPP permit for their operations.

General Requirements			
Requirements	Reference	Compliance Determination	
<ul style="list-style-type: none"> <u>Fugitive PM</u> No fugitive PM beyond the property line. 	35 IAC 212.301	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> N/A	
Inspector's Fugitive PM Observations:	No visible PM was observed crossing at any point along the property line.		
<ul style="list-style-type: none"> <u>Fugitive PM Operating Program</u> Fugitive PM Operating Program Received 	35 IAC 212.309, 212.310	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> N/A	
Initial Date:	N/A	Current/Revised Date:	Same <input type="checkbox"/> Submitted <input type="checkbox"/> Attached
Evaluation of Fugitive PM Operating Plan:			
<ul style="list-style-type: none"> <u>PM10 Contingency Measure Plan</u> PM10 Contingency Plan 	35 IAC 212 Subpart U	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance	

				<input checked="" type="checkbox"/> N/A	
Initial Date:	N/A	Current/Revised Date:	Same	<input type="checkbox"/> Submitted	<input type="checkbox"/> Attached
Evaluation of PM10 Contingency Plan:					
<ul style="list-style-type: none"> <u>Opacity</u> No emission of PM or smoke with opacity > 30% other than those units regulated by 35 IAC 212.122; except as allowed by 35 IAC 212.123(b) and 212.124 		35 IAC 212.123(a)		<input type="checkbox"/> Method 9 Performed <input type="checkbox"/> COM <input checked="" type="checkbox"/> N/A	
Inspector's Observation:		No visible emissions were observed.			
<ul style="list-style-type: none"> <u>Episode Action Plan (EAP) requirement</u> Submission of EAP and revisions to EAP to IEPA <u>Date Received</u> N/A 		35 IAC Part 244		<input type="checkbox"/> Received <input checked="" type="checkbox"/> N/A	

Source - Wide Information
Source-Wide Control Requirements and Work Practices
Requirement(s): None
Compliance Determination(s): N/A

Source-Wide Production and Emission Limitations	
<i>Pollutant</i>	<i>Tons/Year</i>
Volatile Organic Material	11.14
Sulfur Dioxide	0.01
Particulate Matter	0.22
Nitrogen Oxides	3.00
HAP, not included in VOM or PM	0.00
Total	14.37
Compliance Determination(s): In compliance Based on the records review and AER supporting calculations source appear to be in compliance with emissions limitations of regulated pollutants	

Source-Wide Testing Requirements
Requirement(s): Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
Compliance Determination(s): No test requested by the IEPA.

Source-Wide Monitoring Requirements

Requirement(s): None

Compliance Determination(s): N/A

Source-Wide Recordkeeping Requirements

Requirement(s): None

Compliance Determination(s): N/A

Other Source-Wide Requirements

Requirement(s): None

Compliance Determination(s): N/A

Summary of Significant Emission Units

Emission Unit	Description	Permit Number	Date Constructed	Control Equipment
001	14 Ethylene Oxide/Propylene Oxide Sterilization Chambers Willowbrook I& # 3 Aeration Rooms	95120085	1984	Two Acid Water Scrubbers AWS#1 & AWS#2
	4 Ethylene Oxide/Propylene Oxide Sterilization Chambers Willowbrook II&2 Aeration Rooms		1999 & 2012	WB II Scruber
	Cleaver Brooks Natural Gas Fired Boiler (Boiler-1, 5 mmBtu/hr)		2013	None
	Kewanee Model L35-80-G Natural Gas Fired Boiler (WBII – Boiler-1, 3.3 mmBtu/hr)		1999	None
	Kewanee Model L35-80-G Natural Gas Fired Boiler (WBII – Boiler-2, 3.3 mmBtu/hr)		1999	None

Significant Emission Units Information

Process/Emission Unit and Control Description

14 Ethylene Oxide/Propylene Oxide Sterilization Chambers Willowbrook I& # 3 Aeration Rooms
4 Ethylene Oxide/Propylene Oxide Sterilization Chambers Willowbrook II&2 Aeration Rooms
Cleaver Brooks Natural Gas Fired Boiler (Boiler-1, 5 mmBtu/hr)
Kewanee Model L35-80-G Natural Gas Fired Boiler (WBII – Boiler-1, 3.3 mmBtu/hr)
Kewanee Model L35-80-G Natural Gas Fired Boiler (WBII – Boiler-2, 3.3 mmBtu/hr)

Control Description: 3 Scrubers and Dry Bed Reactors for Chamers and Aeration Rooms

Process/Emission Unit and Control Evaluation

Process/Emissions Unit Evaluation:

14 Ethylene Oxide/Propylene Oxide Sterilization Chambers Willowbrook I& # 3 Aeration Rooms, and
4 Ethylene Oxide/Propylene Oxide Sterilization Chambers Willowbrook II&2 Aeration Rooms, and
Cleaver Brooks Natural Gas Fired Boiler (Boiler-1, 5 mmBtu/hr), and
Kewanee Model L35-80-G Natural Gas Fired Boiler (WBII – Boiler-1, 3.3 mmBtu/hr), and
Kewanee Model L35-80-G Natural Gas Fired Boiler (WBII – Boiler-2, 3.3 mmBtu/hr) were in operation
during inspection and appeared in good working order.

Control Evaluation: 3 Scrubers and Dry Bed Reactors were in operation during the inspection and
appeared in good working order.

Process/Emission Unit and Control Regulations/Provisions

Requirement(s):

40 CFR 63 Subpart A and O: NESHAP for Ethylene Oxide Sterilization Facilities

40 CFR 63.360 through 365 and 218.105 (g): Leak Detection Methods for Volatile Organic Material

40 CFR 63.7500(e), the Permittee must complete a tune-up every 5 years as specified in 40 CFR
63.7540(10)(i)-(iv) for Cleaver Brooks Natural Gas Fired Boiler (Boiler-1, 5 mmBtu/hr)

35 III. Adm. Code Section 212.122: Visible Emissions Limitations for Certain Emission Units for Which
Construction and Modification Commenced on or after April 14, 1972, effective 05/22/96.

35 III. Adm. Code Section 212.123(a): Visible Emissions Limitations for All Other Units, effective 05/22/96.

35 III. Adm. Code Section 216.121: Fuel Combustion Emission Sources, effective 06/04/98.

35 III. Adm. Code Section 212.301: Fugitive Particulate Matter, effective 05/22/96.

35 III. Adm. Code Section 218.986 (a): Subpart TT Other Emission Units – Control Requirements, effective
01/24/94.

Compliance Determination(s): The subject source seems to be in compliance with above mentioned
regulations.

Process/Emission Unit and Control - Control Requirements and Work Practices

Requirement(s): None

Compliance Determination(s): N/A

Process/Emission Unit and Control - Production and Emission Limitations

Monthly usage of propylene oxide and ethylene oxide shall not exceed 2,800 lbs and 70,000 lbs respectively

VOM emissions from all sterilization chambers at the Willowbrook II facility shall not exceed the following limits:

Process	Emissions	
	Tons/Month	Tons/Year
Vacuum Pump	0.20	1.16
Back Vent	0.21	1.22
Total	0.41	2.38

Willowbrook II facility shall not exceed the following limits:

Process	VOM Emissions	
	Tons/Month	Tons/Year
Aeration rooms	---	0.05
Total	---	0.05

The emissions of the aeration rooms Willowbrook I shall not exceed the following VOM limits:

Items of Equipment	Operating Hours (Hours/Year)	Volatile Organic Material Emissions	
		(Lbs/Hour)	(Tons/Year)
West Aeration Room	8,760	3.6	15.77

Boilers shall not exceed the following CO emission

Pollutant	Limits	
	(Lb/Hour)	(Tons/Year)
CO	0.4	1.8

Boilers shall not exceed the following NO_x emission limit

Pollutant	Limits	
	(Lb/Hour)	(Tons/Year)
NO _x	0.5	2.2

Compliance Determination(s): Emissions and operations are below limitations set in the permit as it is proved in record keeping.

Process/Emission Unit and Control - Testing Requirements

Requirement(s): When in the opinion of the Illinois EPA or USEPA it is necessary to conduct testing to demonstrate compliance with the conditions of this permit, the owner or operator of an affected cup manufacturing process shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in 35 IAC 218.105. When in the opinion of the Illinois EPA or USEPA it is necessary to conduct testing to demonstrate compliance with 35 IAC Subpart TT, the owner or operator of an affected material preparation area subject to the requirements of 35 IAC Subpart TT shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in 35 IAC 218.105. These tests may include emission rates, capture efficiency and destruction efficiency [35 IAC 218.991(a)(4)].

Compliance Determination(s): No tests required.

Process/Emission Unit and Control - Monitoring Requirements

Pursuant to 40 CFR 63.363(b), the Permittee shall determine the efficiency of control devices used to comply with 40 IAC 63.362(c) using the test methods and procedures in 40 IAC 63.365(b) and shall operate them accordingly.

Pursuant to Section 39.5(7)(a) and (d), the Permittee shall inspect each scrubber once each year to ensure the proper functioning of each scrubber.

The operational and production requirements (4.1.2(c)(B),(C) and (D)) will insure compliance with the HAP requirement in 4.1.2(b)(i)(A).

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

Pursuant to Section 39.5(7)(a) and (e), the Permittee shall monitor the scrubber recirculation tank of Scrubber #2. If Scrubber #1 is in operation, the level of the recirculation tank of Scrubber #1 shall be monitored.

Pursuant to Section 39.5(7)(a) and (e), the Permittee shall take a pH reading of the scrubber and scrubber recirculation tank when the recirculation tank is first charged with water and sulfuric acid. Following this, the pH shall be taken every week thereafter until the recirculation tank is emptied.

Compliance Determination(s): All monitoring requirements are met as proved in the record keeping.

Process/Emission Unit and Control - Recordkeeping Requirements

Requirement(s):

Pursuant to Section 39.5(7)(a) and (e), records of the following shall be kept:

- 1. Records for periodic inspection of the acid water scrubber and dry bed reactor with date, individual performing the inspection, and nature of the inspection.*

- II. *Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.*

Also:

- I. *Ethylene oxide usage (tons/month and tons/year).*
- II. *Propylene oxide usage (tons/month and tons/year).*
- III. *The level of the scrubber liquor in the recirculation tank shall be recorded on a weekly basis.*
- IV. *Records of a procedure in the control system that does not allow for more than five chambers to be evacuated during the first evacuation.*
- V. *pH reading of the scrubber recirculation tank and scrubber for each sample taken.*

Pursuant to 35 IAC 218.991, Subpart UU, the Permittee shall collect and record all of the following information each day and maintain the information at the source for a period of three years.

- I. *Control device monitoring data.*
- II. *A log of operating time for the capture system, control device, monitoring equipment and the associated emission source.*
- III. *A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.*

Pursuant to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, the Willowbrook II Sterilization Chambers are subject to 40 CFR Part 64. The Permittee shall comply with the monitoring requirements of the CAM Plan described in Condition 7.3 and Table 7.3.2, pursuant to 40 CFR Part 64 as submitted in the Permittee's CAM plan application. At all times, the Owner or Operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment, pursuant to 40 CFR 64.7(a) and (b).

Pursuant to Section 39.5(7)(b) and (e) of the Act, the Permittee shall keep records for the following:

Monthly and annual emissions of NO_x emissions (tons/month and tons/year) with supporting data or calculations.

Pursuant to Section 39.5(7)(b) and (e) of the Act, the Permittee shall keep records for the following:

- I. *Monthly and annual emissions of CO emissions (tons/month and tons/year) with supporting data or calculations.*

II. *Records of that the CO emissions were optimized during the tune-up.*

The Permittee shall keep a record of the fuel usage and type of fuel used for all Boilers.

Pursuant to Section 39.5(7)(a) and (e), the Permittee shall maintain records of the following:

I. *Date of the tune-up*

II. *Names of personnel completing the tune-up*

III. *All adjustments/corrective actions (i.e. to the flame pattern, air-to-fuel ratio, CO emissions)*

Compliance Determination(s): The subject source keeps required by permit records in an adequate manner. The above mentioned required records were verified for 2014 and up to day, and found to be complete and maintained in satisfactory way.

Process/Emission Unit and Control - Reporting Requirements

Requirement(s):
If there is an exceedance of or deviation from the requirements of the CAAPP permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance/deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce emissions and future occurrences.

Compliance Determination(s): The most recent Annual Compliance Certification demonstrates that during entire reporting season the subject source was in continuous compliance with all terms and conditions contained in granted CAAPP .

Insignificant Activities		
Required Records	Reference	Compliance Determination
<i>The facility shall maintain a list of insignificant activities and the categories the insignificant activities fall under, with supporting calculations as needed.</i>	<i>Section 39.5(7)(b)</i>	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> N/A

Inspection Discussion

Mr. Wagner provided the necessary data and information of the facility's operation and tour of the facility. Records were reviewed and found adequately maintained. The facility has one paved parking lot used for personnel to park their personal cars.

Compliance Assessment	
<i>Compliance Assistance/ Observations During Inspection</i>	<i>No compliance assistance was provided.</i>
<i>Compliance Actions Taken During Inspection</i>	<i>No compliance actions were required.</i>
<i>Violations Alleged:</i>	<i>No</i>
<i>Violator Class</i>	<i>N/A</i>
<i>Violation Description</i>	<i>N/A</i>
<i>Recommended Action</i>	<i>N/A</i>

cc: DAPC – Division File
DAPC/FOS – Des Plaines, Region 1

ID # 043110 AAC

General Checklist		YES	NO	N/A
What is the purpose of this review? <i>Supervisor's request</i>				
Is this review being done on site or in the office (desk top)? Office				
1. Is the facility in an area of Granite City as defined by 35 Ill. Adm. Code 212.324(a)(1)(C) and engaged in one of these operations: Mining operations (SIC major groups 10 through 14) Manufacturing operations (SIC major groups 20 through 39 including grain-handling and grain-drying operations, portable grain-handling equipment and one-turn storage space) Transportation, communications, electric, gas, and sanitary services (SIC major groups 40 through 49) Wholesale trade-farm supplies (SIC Industry No. 5191)? If yes, answer 4-9 then go to the Granite City check list.			✓	
2. Is the facility in the area of McCook defined by 35 Ill. Adm. Code 212.324(a)(1)(A) or the area of Lake Calumet defined by 35 Ill. Adm. Code 212.324(a)(1)(B) and engaged in one of these operations: Mining operations (SIC major groups 10 through 14) Manufacturing operations (SIC major groups 20 through 39 including grain-handling and grain-drying operations, portable grain-handling equipment and one-turn storage space) Transportation, communications, electric, gas, and sanitary services (SIC major groups 40 through 49)? If yes, answer 4-9 then go to the McCook/Lake Calumet check list.			✓	
3. Is the facility in one of the other geographical areas of application defined by 35 Ill. Adm. Code 212.302(a) and engaged in one of these operations: Mining operations (SIC major groups 10 through 14) Manufacturing operations (SIC major groups 20 through 39 except for grain-handling and grain-drying operations, portable grain-handling equipment and one-turn storage space) Electric generating operations (SIC group 491)? If yes, answer 4-9 then go to the Other Geographical Areas check list.			✓	
If the answers to 1, 2, and 3 are no, the facility is not required to have an operating program pursuant to Part 212, Subpart K. They may have an operating program pursuant to permit conditions, compliance commitment agreements ("CCA's"), or facility may choose to submit on their own accord. If this is the case please answer 4-9 and conduct a review as outlined in the General Guidance document (as applicable) and document the review in a Tier 1 report. NOTE: The review should include compliance determinations in reference to any permit condition or CCA's as applicable.				
4. Do they have an Operating Program?				
If yes, when was it originally prepared?				
5. Was the Operating Program submitted to the Agency?				
If yes, when was it submitted?				
If yes, when was it reviewed?				
6. Has the program been incorporated into a permit?				
If yes, what is the permit and when was it issued?				

7. Does it have the name and address of the source?			
8. Does it have the name and address of the owner or operator in charge of the source and the program?			
9. Has it been updated recently?			
If yes, when?			