GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Jeffrey W. Cown, Director

Air Protection Branch
4244 International Parkway
Suite 120
Atlanta, Georgia 30354
404-363-7000

Compliance Monitoring Report

1. General Information

Date of Inspection:	September 12, 2024
Date of Report Completed:	October 9, 2024
Compliance Monitoring Category:	Unannounced Inspection
Inspector Name:	Sherry Waldron SGW
Reviewing Manager:	William Fleming

2. Facility Information

Facility Name:	Sterigenics U.S. LLC
Facility AIRS No.:	067-00093
Facility Location:	2971 Olympic Industrial Drive SE, Suite 116, Atlanta, GA 30339 Cobb County
Facility Mailing Address:	2015 Spring Road, Suite 650, Oak Brook, Illinois 60523
Facility Contact:	Elbert Sabb, Atlanta General Manager 404-355-4485 esabb@sterignics.com
CMS Designation:	Synthetic Minor Source

Air Quality Permit No. 7389-067-0093-S-06-0 **Effective Date: January 6, 2022**

Issued for operation of an ethylene oxide sterilization facility including the construction and operation of dry bed reactors to control fugitive emissions and the installation and operation of ethylene oxide continuous emission monitoring systems. This Permit is issued for the purpose of establishing practically enforceable emission limitations such that the facility will not be considered a major source with respect to Title V of the Clean Air Act Amendments of 1990.

Permit(s) can be accessed at epd.georgia.gov/air

3. Inspection Summary / Recommended Actions:

The facility was in compliance with Georgia Air Quality Permit No. 7389-067-0093-S-06-0 at the time of the inspection, based on the facility tour and selected records reviewed. However, the facility did not have a readily available monthly CEMS summary as described in Section 4.4.2 of the November 1, 2022 monitoring plan. This is not specifically required by the permit; however, the facility is working toward generating the summary reports to fulfill the elements proposed in the CEMS monitoring plan.

4. Previous Enforcement Actions and Inspections:

The most recent previous inspection was conducted on September 21, 2021. See attached Full Compliance Evaluation (FCE) Report for details.

5. Complaint Investigations since last Full Compliance Evaluation:

No complaints have been received since the last FCE.

6. Applicable Requirements, Description of Regulated Emission Units, and Inspection Determinations:

Table 6

Emission Units		Corresponding Permit Conditions	Air Pollution Control Devices		Inspection	
ID No.	Description		ID No.	Description	Evaluated During Inspection?	Inspection Determination
SEV-1	Six-pallet Sterilization Chamber 1 vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
SEV-2	Six-pallet Sterilization Chamber 2 vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
SEV-3	Nine-pallet Sterilization Chamber vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
SEV-4	Five-pallet Sterilization Chamber vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
SEV-5	Thirteen-pallet Sterilization Chamber vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance

Table 6						
Emission Units			Air Pollution Control Devices		Inspection	
ID No.	Description	Corresponding Permit Conditions	ID No.	Description	Evaluated During Inspection?	Inspection Determination
SEV-6	Thirteen-pallet Sterilization Chamber vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
SEV-7	Thirteen-pallet Sterilization Chamber vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
SEV-8	Thirteen-pallet Sterilization Chamber vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
SEV-10	Thirteen-pallet Sterilization Chamber vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
SEV-11	Thirty-pallet Sterilization Chamber vacuum pump	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 6.1, 6.2, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC3 EC2	Ceilcoat Scrubber AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-1	Backvent for Chamber 1	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-2	Backvent for Chamber 2	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-3	Backvent for Chamber 3	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-4	Backvent for Chamber 4	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance

Table 6						
Emission Units			Air Pollution Control Devices		Inspection	
ID No.	Description	Corresponding Permit Conditions	ID No.	Description	Evaluated During Inspection?	Inspection Determination
CEV-5	Backvent for Chamber 5	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-6	Backvent for Chamber 6	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-7	Backvent for Chamber 7	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-8	Backvent for Chamber 8	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-10	Backvent for Chamber 10	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
CEV-11	Backvent for Chamber 11	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
AR-1	Aeration Room 1	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9, 6.1, 6.3, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC2	AAT Scrubber System with Dry Bed Adsorbers	Yes	In Compliance
IA-1	Indoor Air (Chamber Rooms, Work Aisles, Processed Product Storage, Shipping Areas)	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 4.1, 4.2, 4.3, 4.7, 5.1, 5.5, 5.6, 5.7, , 6.1, 6.4, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 8.1, 8.2, 8.3	EC4	Indoor Air Dry Bed Adsorber System	Yes	In Compliance
N/A	Boiler	1.1, 1.2, 1.3, 1.4, 1.5, 2.9, 3.1, 6.1, 7.1, 7.2, 7.6, 8.1, 8.2, 8.3	N/A	N/A	Yes	In Compliance

7. Compliance Monitoring Activities – Details not included in table above:

a. Describe any deviation from compliance noted during the inspection listed on Table 6: None identified.

b. Describe any compliance assistance provided during inspection: N/A

c. Describe any action taken by the facility to come back into compliance during the inspection: N/A

d. Deviations noted during the inspection, not previously listed. Include equipment ID or equipment description and condition number: The facility did not have a readily available monthly CEMS summary as described in Section 4.4.2 of the November 1, 2022 monitoring plan. This is not specifically required by the permit; however, the facility is working toward generating the summary reports to fulfill the elements proposed in the CEMS monitoring plan.

8. Additional Permit Requirements:

a. Periodic Reports:
Submitted as required. See attached Full Compliance Evaluation (FCE) Report for details.

b. Permit Fees:
Paid as required. See attached Full Compliance Evaluation (FCE) Report for details.

c. Permit Renewal and Expiration:
Not Applicable.

d. For any overall emission/production/usage limit:

Table 8.d.

Permit Condition	Permit Limit	Actual
2.1	Limits ethylene oxide usage to no more than 625,000 pounds in any 12-month period	The facility reports usage in semiannual reports well in compliance with this limit. Example monthly gas usage reports showing usage at less than 30,000 lbs for both July and August 2024 are attached.
2.2	Limit usage of propylene oxide to no more than 5,000 lbs in any 12-month period. Control as with EtO	No PPO has been used recently. The facility has stopped using it.
2.3	Comply with emission control requirements in Conditions 2.6 – 2.8 at all times.	Nothing was observed to indicate noncompliance with this requirement. The facility tested to demonstrate compliance in July 2022.

Table 8.d.		
Permit Condition	**Permit Limit**	**Actual**
2.6	Reduce EtO from each sterilization chamber vent by at least 99%	The facility tested in compliance with this requirement in July 2022, as summarized in the attachment.
2.7	Reduce EtO from the aeration vent to a maximum concentration of 1 ppmv, or by at least 99%, whichever is less stringent.	The facility tested in compliance with this requirement in July 2022, as summarized in the attachment.
2.8	Reduce EtO from each backvent to a maximum concentration of 1 ppmv, or by at least 99%, whichever is less stringent	The facility tested in compliance with this requirement in July 2022, as summarized in the attachment.
2.9	Fire only natural gas in the boilers on site	This was verbally confirmed by Mr. Sabb during the inspection.

9. Attachments:

a. Inspection Observations:
See attachment

b. Performance Tests:
See attachment

c. Full Compliance Evaluation (FCE) Report:
See attachment

The following records were reviewed during the inspection:

- EtO & propylene oxide usage for July - August 2024 (no PPO used; summaries are attached)
- Calculated / measured monthly, 12-month emissions totals for thus far in 2024 (attached)
- Daily EC3 liquor tank liquid levels, EG conc., pH (the logs from 2022-2024 were reviewed) (P.C. 5.3)
- Records of the most recent two accuracy verifications for negative pressure gauges or replacement (WPP section E) (2023 calibrations were confirmed; 2024 calibrations were in process)
- Weekly records of the EtO inlet (where applicable) and outlet sampling of the dry bed reactors, and the calculated destruction efficiency (P.C. 5.4 and 5.5), since August 2023
- The list of spare parts inventory for control equipment (P.C. 4.2).
- Records of routine maintenance and repairs conducted on air pollution control equipment and the vent collection systems (P.C. 4.1, 4.3)
- Daily work practice plan records since May 2023 (WPP section E)
- Training record on WPP (most recent) (WPP section D) – verified completion upon hire

- LDAR inspection and repair records (P.C. 5.9) (spot-checked 2024 records; last conducted 9-6-24)
- Date of last dry bed replacements for EC4 and EC2: (12-18-23 for AAT; 4-1-24 for EC4)
- Quarterly validation and daily calibration records, since initial CEMS RATA (CEMS monitoring plan) (spot-checked)
- Daily CEMS reports (summary of daily emissions in ppb and lb/day and results of automated daily procedural tests) since initial CEMS RATA (CEMS monitoring plan) (spot-checked on computer)
- Monthly reports from the CEMS (as described in CEMS monitoring plan) since initial CEMS RATA (includes downtime, percent data capture, daily calibration summaries, and monthly emissions, etc.) (these reports, which are described in Section 4.2.2 of the CEMS monitoring plan, were unavailable. The facility is working to correct this. Data was confirmed to be available but monthly summary reports were not).

Inspection summary:

I started the unannounced inspection with a safety video. The facility provided a safety vest to wear during the walkthrough of the facility. Mr. Sabb, the General Manager, accompanied me on the inspection of the facility.

We toured each area, and I obtained instantaneous values for each negative pressure gauge in each zone. I inspected each vent collection system where it was possible, including those accessible via the roof. All collection systems as well as each control device appeared to be in very good operating condition. Doors were closed and all seals appeared to be in good condition.

We also stopped in the CEMS enclosure. The CEMS appeared to be operating and was providing data continuously. Calibration gases were unexpired.

We then went to a conference room, where a list of records requested for review was provided. Due to time constraints, not all records available were reviewed in their entirety. However, a representative amount of each type of record was at least spot-checked. No record except as noted above was incomplete. All records reviewed reflected compliance with the permit requirements.

I then concluded the inspection and left the facility.

Attachment: Inspection Observations

Liquid Scrubber Systems

PREVIOUS INSPECTION:	**Liquor flow (gpm)**	**Storage tank level (inches)**	**Scrubber liquor pH**	**Glycol concentration %**
Ceilcote (EC3)	Target: 140 min Reading: >140	Limit: 186 max Reading: <186	Limit: 2 max Reading: <2	Target: N/A Reading: N/A
AAT System (EC2)	Target: 1,300 min Reading: >1,300	Limit: 105 max Reading: <105	Limit: 2 max Reading: <2	Target: N/A Reading: N/A
THIS INSPECTION:	**Liquor flow (gpm)**	**Storage tank level (inches)**	**Scrubber liquor pH**	**Glycol concentration % (most recent)**
Ceilcote (EC3)	Target: 140 min Reading:	Limit: 186 max Reading: 155"	Limit: 1.5 max Reading: 1.2	Target: 40 Reading: 39.8
AAT System (EC2)	Target: 1,300 min Reading:	Limit: 108 max Reading: 88"	Limit: 1.7 max Reading: 0.8	Target: 40 Reading: 27.1

Dry Bed Systems

	Most recent outlet EtO concentration determination	
	Previous Inspection	**This Inspection**
Negative Pressure Dry Beds (EC4)	Non-detect	0
AAT Aeration System Dry Beds (EC2)	Non-detect	0
	Negative pressure system pressure differential readings, Inches of water column	
	Previous Inspection	**This Inspection**
Zone A (chamber room)	-0.0098	-0.0013" (instantaneous)*
Zone B (work aisle)	-0.0112	-0.0192" (instantaneous)*
Zone C (shipping)	-0.0154	-0.056 (instantaneous)*

***A 3-hour reading can also be read from a monitor.**

Permit Conditions		Inspection
2.4	Comply with 40 CFR 63 Subpart O	See details of requirements below. In addition, the facility provided an updated Initial Notification of Applicability for Subpart O on August 1, 2024. The facility is subject to new requirements with a compliance date of April 5, 2026.
2.5	Comply with 40 CFR 63 Subpart A	See details of compliance below.
3.1	Take all reasonable precautions with any operation, process, handling, transportation, or storage facilities to prevent fugitive emissions of air contaminants.	No sources of fugitive emissions were identified.
Operating Requirements		
4.1	Perform routine maintenance on all air pollution control equipment and keep records of such for 5 years.	The facility complies with this condition. These records were spot-checked. A program called EAM is used to schedule/document maintenance.
4.2	Maintain a spare parts inventory for control equipment.	The facility complies with this requirement. A list was available for review. This list includes CEM related items.
4.3	Repair malfunctioning components of air pollution control systems as expeditiously as possible.	Nothing was observed or reviewed to indicate noncompliance with this requirement.
4.4	Comply with Condition 2.6 by routing the exhaust from each chamber vacuum pump to the Ceilcoat Scrubber and the AAT Scrubber System with Dry Bed Adsorbers (Source Codes EC3 and EC2)	The facility complies with this condition. All closed vent systems were inspected where possible, and these appeared in good shape.
4.5	Comply with Condition 2.7 by routing the exhaust from the aeration room vent to the AAT Scrubber System with Dry Bed Adsorbers (EC2)	The facility complies with this condition.

Permit Conditions		Inspection
4.6	Comply with Condition 2.8 by routing the exhaust from each sterilization chamber backvent to the AAT Scrubber System with Dry Bed Adsorbers (EC2).	The facility complies with this condition.
4.7	Route the air from the Indoor Air areas to the Indoor Air Dry Bed Adsorber System (Source Code EC4).	The facility complies with this condition.
Monitoring		
5.1	Maintain continuous monitoring systems in continuous operation during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Maintenance and repair shall be conducted in the most expedient manner to minimize the period during which the system is out of service.	All identified records were spot-checked. No record reviewed appeared incomplete. No missing records or periods inconsistent with compliance with the permit were identified.
5.2	Install, calibrate, maintain and operate monitoring devices for the measurement of parameters specified in Condition 5.3 for the Ceilcote Scrubber and AAT Scrubber System with Dry Bed adsorbers (EC3 and EC2).	The records were spot-checked. All appeared to reflect compliance and were consistent with semiannual reports.
5.3	a. For the Ceilcote Scrubber EC3, sample the scrubber liquor using test methods and procedures in 40 CFR 633.365€(1). Monitor once per day of operation. This can be reduced to weekly once the CEMS required by 5.6 is operated. b. For the AAT Scrubber (Source Code EC2) and the Ceilcote Scrubber (Source Code EC3) install and maintain monitoring devices for the measurement of scrubber liquor level in the recirculation tank (a liquid level indicator) and the pH of the scrubber liquor for each of the scrubbers. Maintain the level of the scrubber liquor at or below the levels established during the initial performance testing. The pH levels of the scrubber liquor shall be maintained in accordance with the pH levels recommended by the manufacturers or as determined through the performance testing required by Conditions 6.2 and 6.3, whichever is lower. Measurements shall be made each day of operation. This can be reduced to weekly once the CEMS required by Condition 5.6 is installed. c. In lieu of compliance with a. or b. of this Condition, the Permittee may use the EtO CEMS required by Condition 5.6, provided that US EPA approves in writing the CEMS-related conditions in this permit as acceptable monitoring for 40 CFR 63 Subpart O.	The facility was able to demonstrate compliance with these requirements. Records were spot-checked; no deviations were noted and all values were consistent with reports. The facility uses an internal pH action level of 1.0, and manually adds H_2S to adjust it as necessary. The facility maintains these records even though the CEMS has been added and validated.

	Permit Conditions	Inspection
5.4	a. If complying with the 99% reduction efficiency standard, as specified in Condition 2.7 and 2.8, once per week, the Permittee shall collect and record the concentrations of a 15-minute EtO bag sample from both the inlet and outlet of the AAT Scrubber System with Dry Bed Adsorbers (EC2). If the reduction efficiency is 99.1% or less, the Permittee shall replace the dry beds within 30 days. The dates of dry bed material replacement shall be recorded and kept in a form suitable for inspection or submission to the Division. The AAT Scrubber System reduction efficiency shall be calculated by comparing the EtO loading into the AAT Scrubber system to the EtO mass exiting the dry bed adsorbers. b. If complying with the 1 ppmv standard, as specified in Condition 2.7 and 2.8, once per week, the Permittee shall collect and record the concentration of a 15-minute EtO bag sample from the outlet of the AAT Scrubber System with Dry Bed Adsorbers (EC2). If the concentration of EtO in the outlet sample of the dry bed adsorbers increases to 0.9 ppmv or greater, the Permittee shall replace the dry bed material within 30 days. c. In addition to a. and b., collect and record weekly 15-min. EtO bag samples from the outlet of EC2. If the concentration of EtO is greater than 0.5 ppmv for 2 consecutive weeks, the Permittee shall not initiate a new sterilization cycle until the dry bed material is replaced. Record the date of replacement and maintain it. Upon successful installation and initial operation of the CEMS required by 5.6, in lieu of the bag sample, the CEMS shall be used to determine the outlet concentration. If any 30-day rolling average equals or exceeds 0.2 ppmv, the dry bed material shall be replaced within 30 days, unless an extension is granted in writing. Record and keep the dates of dry bed material replacement. d. The reduction efficiency and loading out of the system shall be documented and available within 3 hours of the sampling event. Maintain for inspection / submittal. e. In lieu of compliance with a. or b., the Permittee may use the EtO CEMS required by 5.6, provided that the EPA approves in writing the CEMS-related conditions in this permit as acceptable monitoring for Subpart O.	Records were reviewed since August 2023. Tedlar® bags are used, and inlet and outlet samples are grabbed for these purposes. The facility maintains these records even though the CEMS has been added and validated.

	Permit Conditions	Inspection
5.5	The Permittee shall maintain and operate EC4 as follows: a. Collect and record the concentration of 15-minute EtO bag samples weekly. If any 2 consecutive weekly EtO concentrations equal or exceed 0.5 ppmv, replace the dry bed material. Record and maintain the date of dry bed replacement. b. The EtO concentration sample results shall be recorded within 3 hours and maintained. c. Upon successful installation and initial operation of the EtO CEMS required by condition 5.6, in lieu of a. and b., the Permittee shall use the CEMS to determine the outlet EtO concentration. If any 30-day rolling average equals or exceeds 0.3 ppmv, the dry bed material shall be replaced unless an extension is granted in writing. Record and maintain the date for inspection / submittal.	Records were reviewed since August 2023. Tedlar® bags are used, and inlet and outlet samples are grabbed for these purposes. The facility maintains these records even though the CEMS has been added and validated.
5.6	By 1/6/2023, install, calibrate, maintain and operate a CEMS to monitor and record EtO as below. Each system shall meet the applicable requirements of the Division-approved monitoring plan specified in Condition 5.7.: a. EtO from the outlet of EC2 b. EtO from the outlet of EC4 The sources shall be equipped with continuous flow rate monitoring systems, and any other necessary systems, for converting CEMS concentration data to a mass flow rate and shall be operated in accordance with the approved monitoring plan.	The CEMS is in place and appeared to be operating as required. The EtO emissions summary for 2024, as measured by the CEMS, is attached. It shows emissions for 2024 to date of 5.57 lgs for EC-2, 16.13 lbs for EC-4, and total pounds of 21.70.
5.7	No later than 60 days prior to the operation of the CEMS required by Condition 5.6, the Permittee shall submit to the Division, in writing, and EtO CEMS monitoring plan. The plan, and any modifications to said plan, shall be subject to review and approval by the Division.	The monitoring plan was submitted on November 1, 2022. Comments to the plan were provided on January 4, 2023. A summary report referenced in Section 4.2.2 of the plan that is indicated to be part of the CEMS reporting system was not readily available; this is being addressed by the facility.

	Permit Conditions	Inspection
5.8	Operate the facility in accordance to the Work Practice Plan (WPP) initially approved 10/31/19, or as subsequently revised and approved. The WPP shall include a monitoring protocol to demonstrate proper operation of the negative pressure system. Negative pressure system monitoring shall be conducted at least once per day. Maintain the records. The Permittee shall submit an updated WPP within 60 days after issuance of the permit. The updated plan must also include a protocol to minimize EtO emissions from on-site trucks containing sterilized product.	An updated work practice plan was received on February 24, 2022. The plan was approved on December 16, 2021. All records associated with this plan reflected compliance with the plan.
5.9	The Permittee shall develop, implement, and maintain and EtO leak detection and repair (LDAR) program. The program shall check all outside components for leaks with, at a minimum, weekly monitoring of all components. The program, and any modifications to the program, shall be subject to review and approval by the Division. The initial copy of the program shall be submitted no later than 60 days following the date of issuance of the permit.	These records were spot-checked for all of 2024; the LDAR inspection was last conducted 9-6-24. No leaks have been identified.
	Testing	
6.1	Conduct tests according to the Division's Procedures for Testing and Monitoring Sources of Air Pollutants. Submit test results within 60 days. Give the Division at least 30 days prior written notice of the date of testing. Install, calibrate and operate each monitoring system prior to conducting performance tests. Acquire data during each test run. All monitoring device data acquired during testing shall be submitted with the test results.	The facility has met these requirements to date.
6.2	Within 6 months of the issuance of the permit (by July 2022) conduct tests on the sterilization chamber vents. Establish maximum liquor tank levels, maximum pH for the scrubbers. List the control efficiency of the Ceilcote Scrubber, the AAT Scrubber System with Dry Bed Adsorbers, and the total system. The Test report shall list the final exhaust mass emission rate of EtO.	A notification of tests proposed to be conducted starting on June 27, 2022 was received on May 2, 2022. The results are summarized in the attachment.
6.3	Within 6 months of the issuance of the permit (by July 2022) conduct tests on the sterilization chamber backvents and the aeration room vent. The testing shall establish the maximum ethylene glycol concentration, maximum liquor tank level, and maximum pH for the AAT System Scrubber (EC2). The test report shall list the final exhaust mass emission rate of EtO and the control efficiency of the AAT Scrubber System with Dry Bed Adsorbers.	
6.4	Within 6 months of the issuance of the permit (by July 2022) conduct tests of the Indoor Dry Bed Adsorber System (EC4). The test report shall list the final exhaust mass emission rate of EtO and the control efficiency of the Indoor Air Dry Bed Adsorber System.	

Permit Conditions		Inspection
6.5	The Permittee shall conduct RATAs on the CEMS at least every 12 months after installation and calibration of the CEMS. The results shall be submitted to the Division.	The RATA was conducted December 13-14, 2023.
Recordkeeping and Reporting		
7.1	Maintain records of startup, shutdown, and malfunction in the operation of the facility, and any malfunction of the air pollution control equipment or any periods during which a continuous monitoring system or monitoring device is inoperative. Retain the records for 5 years.	Records specifically required by the permit were readily available. All records showed compliance.
7.2	Maintain a file of all measurements, all continuous monitoring system performance evaluations, all calibration checks, adjustments and maintenance performed on these systems or devices; and all other info required by the Permit. Keep the records for at least 5 years.	These records were spot-checked. No records required by the permit were identified as missing. Calibrations for 2023 for negative pressure gauges were confirmed; 2024 calibrations had been started.
7.3	Maintain general records and continuous monitoring system (CMS) records as specified by Subpar A and Subpart O.	These records were checked. Logs for 2022-2024 were reviewed for most monitoring.

Permit Conditions		Inspection
7.4	For each scrubber parameter measurement conducted per 5.3a and b, dry bed sample per conditions 5.4 and 5.5, and CEMS in Condition 5.6, the Permittee shall include the following info in the semiannual report required by Condition 7.6: a. For EC2 and EC3, any occurrence when the ethylene glycol concentration in the acid-water scrubber liquor is in excess of the maximum ethylene glycol concentration established during testing and approved by the Division when using the Condition 5.3.a monitoring option. b. For EC2 and EC3, any occurrence when the liquor recirculation tank level of the acid-water scrubber is in excess of the max liquor tank level established during testing and approved by the Division, when using the Condition 5.3.b monitoring option. c. ForEC2 and EC3, any occurrence when the scrubbing liquor pH rises above the manufacturers' recommended level of 2 or the level determined during testing, whichever is lower, when using the Condition 5.3.b monitoring option. d. For EC2, any 2 consecutive measurements per Condition 5.4.c showing an outlet concentration exceeding 0.5 ppm, any single measurement per Condition 5.4.a that shows control efficiency equal or less than 99.1% or any single measurement per Condition 5.4.b that shows outlet concentration equal to or greater than .9 ppmv. e. For EC4, any 2 consecutive measurements per Condition 5.5 equal to or greater than 0.5 ppmv. f. Any instance that negative pressure cannot be verified for the Indoor Air System. g. For EC2 and EC4, any instance when a bed system not replaced in accordance with Conditions 5.4 or 5.5.	None of the records reviewed indicated noncompliance.
7.5	Submit Deviation reports and CMS performance and summary reports required by Subpart O.	These reports have been submitted as required.
7.6	Submit semiannual reports, as required.	These reports have been submitted as required.
7.7, 7.8, 7.9	Maintain records in pounds of the amount of EtO introduced into the chambers each day and maintain them for inspection / submittal. Use the records to calculate monthly totals. Notify the Division if EtO usage exceeds 52,083 during any calendar month as specified. Use the monthly records to calculate 12-month emissions. Notify the Division if the usage of EtO exceeds 625,000 lbs / 12 months as specified.	These records were readily available. Summaries for August and July 2024 are attached.
7.10	Calculate monthly EtO emissions using the CEMS data recorded in accordance with Condition 5.6 (after installation) as specified. Prior to the CEMS installation, use the formulas provided.	The CEMS data summary for 2024 is attached.

Permit Conditions		Inspection
7.11	Use the calculations required by Condition 7.10 to determine 12-month rolling total EtO emissions, monthly. Maintain for inspection / submission.	These calculations are submitted with reports. The calculations indicate emissions totals are very small.
7.7, 7.12, 7.13	Maintain records in pounds of the amount of propylene oxide introduced into the chambers each day and maintain them for inspection / submittal. Use the records to calculate monthly totals. Notify the Division if propylene oxide usage exceeds 416 lbs during any calendar month as specified. Notify the Division if usage exceeds 5,000 lbs / 12 months as specified.	No PPO has been used recently. The facility has ceased these operations.
7.14	Include the following info with the report required by Condition 7.6: • Total lbs EtO usage for each month/ 12-month totals • Total lbs EtO emissions / 12-month emissions for each month • Total lbs propylene oxide usage / 12-month usage for each month in the reporting period	These records were readily available.
7.15	Report any spill or unpermitted release of EtO within 24 hours as specified	No reports have been submitted; all records available indicate non have been required.
7.16	In the event that any test conducted indicates non-compliance with the applicable control efficiency standard, the permittee shall notify the Division within 60 days. In addition, no new sterilization cycles may be initiated after such notification without written approval.	Not applicable at this time.
8.2	Pay permit fees	Submitted as required.

Attachment: Performance Tests

Source Tested	Pollutant	Date of Test	Required Testing Frequency	Limit	Actual	Percent of Allowable
Indoor Air Enclosure	EtO	July 1, 2022	Within 6 months of issuance of the January 6, 2022 permit	100% capture efficiency	100% capture efficiency	N/A
Indoor Air Control System	EtO	July 1, 2022		N/A	98.24%	N/A
AAT Scrubber - Aeration	EtO	June 30, 2022		99% DRE Or 1ppmv	99.96% <0.01286 ppm	N/A
AAT Scrubber – Backvents	EtO	June 30, 2022		99% DRE Or 1ppmv	99.95% <0.0106 ppm	N/A
Total System (Ceilcote Scrubber, AAT Scrubber, Vacuum Pump)	EtO	June 30, 2022		99% DRE Or 1ppmv	99.998% 0.0082 ppm	N/A
Sterilization Chamber SEV-11	EtO	June 30, 2022		99% DRE	99.99999% DRE	N/A
Sterilization Chamber SEV-7	EtO	June 30, 2022		99% DRE	99.99998% DRE	N/A
Sterilization Chamber SEV-4	EtO	June 30, 2022		99% DRE	99.99997% DRE	N/A

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Jeffrey W. Cown, Director

Air Protection Branch
4244 International Parkway, Suite 120
Atlanta, Georgia 30354
404-363-7000

Full Compliance Evaluation Report

Sterigenics U.S. LLC, Atlanta — 067-00093

Facility description: Ethylene Oxide Sterilization

2971 Olympic Industrial Drive, suite 116
Atlanta, GA 30339

Cobb County
Lat: 33.831667, Long: -84.467778

Operating status:	Operational
Classification:	Synthetic minor
CMS classification:	SM
SIC:	7389
NAICS:	561910
Air programs:	SIP, MACT
Program classifications:	

Full Compliance Evaluation

FCE year :	**2024**	*FCE tracking number:*	12157
Reviewed by:	Waldron, Sherry	*Date completed:*	September 30, 2024
On-site inspection conducted:	Yes		

Comments: N/A

Supporting compliance data for September 30, 2023 through September 30, 2024

Inspections

Tracking #	Date	Inspector	Reason for inspection	Operating	Compliance status
104209	September 12, 2024	Waldron, Sherry	Planned Unannounced	Yes	Compliant
	Comments: N/A				

RMP Inspections

None.

Annual Compliance Certifications

None.

Reports

Tracking #	Report period	Date received	Reviewer	Deviations reported
103482	First Semiannual January 1, 2024 – June 30, 2024	August 2, 2024	Waldron, Sherry	Yes
	Comments: Small amount of power outages reported while chambers were not being unloaded.			
100589	Second Semiannual July 1, 2023 – December 31, 2023	January 31, 2024	Waldron, Sherry	No

Tracking #	Report period	Date received	Reviewer	Deviations reported

Comments: Subpart O Report. CEMS is used. 12-month total emissions 103.2 lbs. Dry bed adsorber system EC4 material was replaced December 18, 2023.

Notifications

Tracking #	Date received	Reviewer	Notification type
103481	August 5, 2024	Waldron, Sherry	N/A

Comments: The facility submitted an intial notification of applicability for Subpart O as it was revised on April 5, 2024. The notification is submitted pursuant to 40 CFR 63.9(b)(1) and 63.366(e)(3). The compliance date for the new requirements is April 5, 2026 for this facility. The notification also reports usage of ETO of 243836 lbs in 2023.

Source Tests

Tracking #	Test Ref #	Date received	Reviewer	Compliance status
102121	202400117	April 3, 2024	Waldron, Sherry	In Compliance
	Source tested:	Ethylene Oxide – EtO Abatement System (EC4)		
102120	202400116	April 3, 2024	Waldron, Sherry	In Compliance
	Source tested:	Ethylene Oxide – EtO Abatement System (EC2)		

Five-Year History of Annual Permit Fees

Fee year	Invoiced amount	Amount paid	Balance	Status
2023	$2,100.00	$2,100.00	$0.00	Paid in Full
2022	$2,100.00	$2,100.00	$0.00	Paid in Full
2021	$2,100.00	$2,100.00	$0.00	Paid in Full
2020	$2,100.00	$2,100.00	$0.00	Paid in Full
2019	$2,100.00	$2,100.00	$0.00	Paid in Full

Five-Year History of Enforcement Actions

None.

Sterigenics
A Sotera Health company

Sterigenics Atlanta Monthly EO Emissions

2024 (as of 11-SEP-2024)

Date	EC-2 EO Emit (lbs)	EC-4 EO Emit (lbs)	Total (lbs)
Jan-24	0.38	1.90	2.28
Feb-24	0.45	2.22	2.67
Mar-24	0.95	3.71	4.66
Apr-24	0.75	1.37	2.11
May-24	0.67	1.80	2.47
Jun-24	0.64	1.74	2.38
Jul-24	0.51	1.13	1.64
Aug-24	0.94	1.72	2.66
Sep-24	0.29	0.54	0.83
Oct-24			
Nov-24			
Dec-24			
Total	**5.57**	**16.13**	**21.70**

Ars #067-00093
S. Wilson 9/12/24

R554119
Version STER0001

Sterigenics International, Inc
Gas Usage Report

9/12/2024 19:03:30 GMT
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Business Unit 130 Atlanta

Date From 7/1/2024 Date Thru 7/31/2024

Location	Item Number	UOM	Unit Of Measure Description	Quantity
	EO	LB	Pounds	5,600-
CHAMBER 10	EO	LB	Pounds	6,338-
CHAMBER 11	EO	LB	Pounds	7,665-
CHAMBER1	EO	LB	Pounds	47-
CHAMBER2	EO	LB	Pounds	232-
CHAMBER3	EO	LB	Pounds	663-
CHAMBER4	EO	LB	Pounds	99-
CHAMBER5	EO	LB	Pounds	1,479-
CHAMBER6	EO	LB	Pounds	1,196-
CHAMBER7	EO	LB	Pounds	775-
CHAMBER8	EO	LB	Pounds	405-
			Total Usage	**24,499-**

ARS # 06700093
- S. Waldron 9/12/24

Sterigenics International, Inc
Gas Usage Report

Business Unit 130 Atlanta

Date From 8/1/2024 Date Thru 8/31/2024

Location	Item Number	UOM	Unit Of Measure Description	Quantity
CHAMBER 10	EO	LB	Pounds	7,167-
CHAMBER 11	EO	LB	Pounds	6,161-
CHAMBER1	EO	LB	Pounds	244-
CHAMBER2	EO	LB	Pounds	284-
CHAMBER3	EO	LB	Pounds	812-
CHAMBER4	EO	LB	Pounds	239-
CHAMBER5	EO	LB	Pounds	1,606-
CHAMBER6	EO	LB	Pounds	1,501-
CHAMBER7	EO	LB	Pounds	887-
CHAMBER8	EO	LB	Pounds	2,082-
			Total Usage	**20,983-**

AIRS # 067-00093
- S. Waldron 9/12/24