

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 122013-007

Project Number: 2013-08-009
Installation Number: 031-0068

Parent Company: Midwest Sterilization Corporation

Parent Company Address: P.O. Box 411, Jackson, MO 63755

Installation Name: Midwest Sterilization Corporation

Installation Address: P.O. Box 411, Jackson, MO 63755

Location Information: Cape Girardeau County, S14, T35N, R7E

Application for Authority to Construct was made for:
one 4,423 cubic foot Vacudyne sterilizer. This review was conducted in accordance with
Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

DEC 23 2013

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Midwest Sterilization Corporation
Cape Girardeau County, S14, T35N, R7E

1. **Superseding Condition**
The conditions of this permit supersede special conditions 2 through 7 found in Construction Permit # 052004-009B previously issued by the Air Pollution Control Program.
2. **Operational Emission Limitation**
Midwest Sterilization Corporation shall emit, from each sterilization chamber back vent per cycle, less than 0.0080 pound ethylene oxide per pound ethylene oxide charged into each sterilization chamber.
3. **Control Device Requirements**
 - A. Midwest Sterilization Corporation shall use the wet scrubber (CD-01) control device at all times during operation of any of the 11 sterilization chambers (E1-1, E1-2, E1-3, E1-4, E1-5, E1-6, E1-7, E1-8, E1-9, E1-10 and E1-11). The wet scrubber (CD-01) shall control all emissions from the sterilization chamber vents (excluding the sterilization chamber back vents) whenever a sterilization chamber is in use.
 - B. Midwest Sterilization Corporation shall use the Safe Cell II (CD-02) control device at all times during operation of any of the 21 aeration rooms (E7-1, E7-2, E7-3, E7-4, E7-5, E7-6, E7-7, E7-8, E7-9, E7-10, E7-11, E7-12, E7-13, E7-14, E7-15, E7-16, E7-17, E7-18, E7-19, E7-20 and E7-21). The Safe Cell II (CD-02) shall control all emissions from aeration rooms whenever an aeration room is in use.
 - C. The wet scrubber (CD-01) and Safe Cell II (CD-02) shall be operated and maintained in accordance with the manufacturer's specifications.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- D. The control device medium (beads) for the Safe Cell II shall be made of appropriate materials for operating conditions expected to occur. Replacement beads for the Safe Cell II shall be kept at the site or an alternative site.

 - E. Midwest Sterilization Corporation shall maintain one operating and maintenance log for the wet scrubber (CD-01) and one for the Safe Cell II (CD-02). Each operating and maintenance log shall contain the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.Based on the schedule for bead replacement previously approved by the Air Pollution Control Program, the operating and maintenance log for the Safe Cell II (CD-02) shall also contain the following:
 - 3) The frequency of bead replacement;
 - 4) The method of analyzing bead effectiveness in controlling ethylene oxide emissions; and
 - 5) The overall bead effectiveness in controlling ethylene oxide emissions.

 - F. Midwest Sterilization Corporation shall maintain copies of the wet scrubber (CD-01) and Safe Cell II (CD-02) manufacturers' specifications on site.
4. Record Keeping and Reporting Requirements
- A. Midwest Sterilization Corporation shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used

 - B. Midwest Sterilization Corporation shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2013-08-009
Installation ID Number: 031-0068
Permit Number:

Midwest Sterilization Corporation
P.O. Box 411
Jackson, MO 63755

Complete: August 14, 2013

Parent Company:
Midwest Sterilization Corporation
P.O. Box 411
Jackson, MO 63755

Cape Girardeau County, S14, T35N, R7E

REVIEW SUMMARY

- Midwest Sterilization Corporation has applied for authority to construct one 4,423 cubic foot Vacudyne sterilizer to replace one of the two 4,423 cubic foot Vacudyne sterilizers previously decommissioned by the installation.
- HAP emissions are expected from the proposed equipment. The HAP of concern from this process is ethylene oxide (ETO).
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart O, *Ethylene Oxide Emissions Standards for Sterilization Facilities* applies to the sterilization chamber vents and the aeration room vents.
- A wet scrubber (CD-01) is used to control emissions from the sterilization chamber vents (excluding the sterilization chamber back vents). A Safe Cell II (CD-02) is used to control emissions from aeration rooms whenever an aeration room is in use.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of ethylene oxide are conditioned below de minimis levels. Potential emissions of all other pollutants are below de minimis levels.
- This installation is located in Cape Girardeau County, an attainment area for all criteria pollutants.

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Additional ambient air quality modeling is not required for the equipment. The results of modeling done for Permit # 052004-009B indicated ground level exposure for ethylene oxide below the RAL.
- Additional emissions testing are not required for the equipment.
 - 1) Testing conducted on the wet scrubber (CD-01) on September 14, 2004 demonstrated that it controlled ethylene oxide emissions from the sterilization chambers with an efficiency of 99.73%. As approved in EPA's letter of March 12, 2008 to Midwest Sterilization Corporation, a wet scrubber liquor grab sample is analyzed once each week to verify that the concentration of glycol is below the 49.8% concentration level established during the test. This meets MACT Subpart O requirements.
 - 2) Testing conducted on the Safe Cell II (CD-02) on February 15, 2005 verified that it controlled ethylene oxide in the aeration room exhaust below 1 part per million. This meets MACT Subpart O requirements.
 - 3) Testing conducted on the sterilization chamber back vents on February 16 and 17, 2005 verified emissions from these back vents of less than 0.0080 pounds of ethylene oxide per pound of ethylene oxide charged into each chamber. This meets the requirements of Special Condition 3 of this permit.
- An operating permit is not required for this installation even though Maximum Achievable Control Technology regulation 40 CFR 63 Subpart O, *Ethylene Oxide Emissions Standards for Sterilization Facilities*, applies to it. Per 40 CFR 63 §360(f), "If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status as an area source under this subpart." Because EPA has made a decision with respect to the need to obtain a Part 70 operating permit, the installation in this case does not need to obtain a Basic operating permit either.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Installation Overview

Midwest Sterilization Corporation is an existing installation in Jackson, Missouri that sterilizes disposable medical supplies, dairy cartons, and spices. The largest portion of the business is sterilization of plastic medical supplies. The sterilization process uses ethylene oxide, which produces ethylene glycol as a by-product.

After this new sterilizer is installed, the equipment at Midwest Sterilization Corporation will consist of 11 sterilization chambers (E1) with back vents (E8), 21 aeration rooms (E7), 16 preconditioning rooms, 3 natural gas boilers (E4), and 5 glycol storage tanks (E5). Emissions from the sterilization chambers are controlled by a web scrubber (CD-01). Emissions from the aeration rooms are controlled by a Safe Cell II (CD-02). A 0.1 mile unpaved haul road (E6) is used for deliveries and shipments. A detailed equipment list was included in the application.

Description of the Sterilization Process

The ethylene oxide sterilization process begins with the loading of palletized, non-sterile product into a preconditioning room where it is held under elevated temperature and humidity levels for a prescribed amount of time in preparation for sterilization.

After preconditioning, the load is transferred by forklifts to a sterilization chamber, which is a totally enclosed vessel in which a controlled and validated cycle is run to sterilize the product. During the initial portions of the cycle, vacuum pumps are used to execute a number of evacuations to reduce the concentration of oxygen inside the chamber. At the proper stages of the cycle, nitrogen, steam, and subsequently, a known amount of ethylene oxide (usually in the 500 to 600 milligram/liter range) is introduced into the sealed chamber under a vacuum and circulated in and around the product for a specified period of time. During this time, the chamber temperature is maintained at about 125 °F by hot water jackets that wrap the chamber. Currently, the most frequent of several cycles used in production is referred to as cycle ML. The nominal charge of ethylene oxide for cycle ML and the average charge of ethylene oxide, per cycle per sterilization chamber, based on the size of the chamber, are outlined in Table 1 below. The larger of the two values in each case was used in PTE calculations.

Table 1: Amount of Ethylene Oxide Charged per Cycle per Chamber

Chamber Size	1000 cubic feet	2000 cubic feet	4423 cubic feet
Ethylene Oxide Nominal Charge Size (Cycle ML)	70 pounds per cycle	140 pounds per cycle	285 pounds per cycle
Ethylene Oxide Average Charge Size	54 pounds per cycle	142 pounds per cycle	199 pounds per cycle

During the latter portions of the sterilization cycle, vacuum pumps are used to remove the ethylene oxide from the chamber and route it to a Croll Reynolds wet scrubber emission control system, where ethylene oxide is converted to ethylene glycol. A number of flush cycles are required during the evacuation process to reduce the ethylene oxide to a level that allows for safe chamber unloading. All the chamber evacuations executed by the vacuum pumps are vented to the wet scrubber.

As the sterilization chamber door is opened for product unloading, a vent on the opposite end of the chamber (the back vent) automatically activates an exhaust fan that pulls fresh warehouse air through the chamber during the entire unloading process. The back vent exhausts to the atmosphere through a common stack.

After being unloaded from the chamber, the sterilized product is moved to a heated aeration room. During a typical 24 to 72 hour time period, the aeration process removes residual ethylene oxide from the product. Each aeration room is served by a fan rated at either 18,000 cubic feet per minute or 22,000 cubic feet per minute. The aeration room emissions are directed through an Advanced Air Technologies Safe Cell II control system which chemically reacts ethylene oxide with a solid reactant. The Safe Cell exhausts to the atmosphere through a common stack with a maximum flow rate of 40,000 cubic feet per minute.

When the aeration process is complete, the sterilized product is stored in the sterile area of the warehouse to await shipment.

Installation History

The following construction permits have been issued to Midwest Sterilization Corporation from the Air Pollution Control Program. No NOV/NOEEs have been issued to this installation in the last five years.

Table 2: Construction Permits Issued

Permit Number	Description
0780-006	Installation of two (2) Sterilization Chambers
0187-003	Relocation of the Facility
0389-011	Addition of one (1) Vacudyne Sterilization Chamber
0490-002	Addition of one (1) Vacudyne Sterilization Chamber
1094-005	Installation of two (2) 2000 cubic foot Sterilization Chambers
062000-011	Installation of new sterilization chambers, aeration rooms
062003-023	New permit which superseded all previous permits for installation. Removed ethylene oxide emission limit. Allowed for 11 sterilization chambers and 24 aeration rooms.
062003-023A	Amendment to Permit 062003-023. Corrected a description in one sentence.
052004-009	Amendment to permit 062003-023, although it changed the permit number. Allowed for 12 sterilization chambers and 27 aeration rooms. Limited emissions of ethylene oxide to $3.372E^{-5}$ pound per pound of ethylene oxide charged into each sterilization chamber.
052004-009A	Amended 052004-009. Corrected a couple of grammatical errors.
052004-009B	Amended 052004-009. Installation was reconfigured at this point. Changed emissions of ethylene oxide to 0.0080 pound per pound of ethylene oxide charged into each sterilization chamber. Added emission limit of 10 tons/year ethylene oxide. Did ambient air quality analysis based on 12 sterilization chambers and 27 aeration rooms.

In 2000, Midwest Sterilization Corporation was issued Permit Number 062000-011 for the installation of new sterilization and aeration rooms. That permit set an emissions limit on ethylene oxide to prevent exceeding its Risk Assessment Level (RAL). Midwest

Sterilization Corporation was unable to comply with that limit and requested that it be removed, which was done in Permit Number 062003-023.

According to Air Pollution Control Program guidelines, emissions that are controlled by a MACT standard do not need to meet RAL. Therefore, Midwest Sterilization Corporation proposed avoiding the RAL issue by applying MACT-like controls on emissions from the sterilization chamber back vents, even though such vents are not subject to MACT requirements.

However, Midwest Sterilization Corporation also contended that because they were controlling the sterilization chamber back vents, they were unable to meet the control efficiency required in MACT Subpart O. (See Permit Number 062003-023) The installation requested a variance to the MACT in order to allow them to control back vent emissions and demonstrate compliance using an alternative to the method stated in Subpart O. The Environmental Protection Agency denied this variance request.

Since the issuance and validity of Permit Number 062003-023 were based on the approval of the variance, Midwest Sterilization Corporation had to obtain a new construction permit with an ambient air quality analysis for ethylene oxide. They abandoned the idea of using a control device on the back vent exhausts and went back to meeting RAL requirements for these non-MACT controlled emission points. In order to meet RAL, the installation was reconfigured. From the time Permit Number 052004-009B was issued to the present, all sterilization chambers have been controlled with an acid scrubber, all aeration rooms have been controlled with a Safe Cell, and the back vents have been vented directly to the atmosphere.

For ease of monitoring, the installation combined stacks for the sterilization chambers, aeration rooms and back vents. However, for permitting and modeling, Permit Number 052004-009B treated each emission point separately with an independent stack.

To reduce ethylene oxide emissions from the chamber back vents enough to meet RAL, the sterilization chamber emissions were flushed through the wet scrubber more times while the sterile product remained in the chamber. This produced lower emissions from the back vents when the chamber door was opened at the end of the cycle.

PROJECT DESCRIPTION

The existing permit for Midwest Sterilization Corporation, Permit Number 052004-009B, allows for 12 Vacudyne sterilization chambers and 27 aeration rooms. However, chambers 11 and 12, each with a capacity of 4,423 cubic feet, were decommissioned, and the Air Pollution Control Program was notified of this in November 2008 and September 2009. Also, the installation now has only 21 aeration rooms. The special conditions in this new permit were reestablished to cover new equipment and consolidate requirements.

Chamber 11 is to be replaced with another Vacudyne sterilization chamber with a

capacity of 4,423 cubic feet. The installation will still have one less sterilization chamber than was allowed for in the calculations done for the existing permit, and it will have six fewer aeration rooms. New calculations done for 11 sterilization chambers and 21 aeration rooms indicate that the potential to emit ethylene oxide is now less than 10 tons per year, so the special condition limiting the installation to 10 tons per year of ethylene oxide is no longer necessary.

The same wet scrubber used to control ethylene oxide emissions from the existing sterilization chambers will be used by this new one. The back vent from the new sterilization chamber will share the same stack with the back vents from the existing chambers. The wet scrubber and back vents have been tested, and the results verified the assumptions made in the existing permit.

EMISSIONS/CONTROLS EVALUATION

The main pollutant of concern for the purpose of this review is ethylene oxide, a HAP. Calculations of the potential to emit ethylene oxide from the sterilization process were based on MACT Subpart O limitations; those from the back vent emissions were based on Special Condition 3. All calculations assumed 8,760 hours of operation per year. Note that the potential emissions of the application would be much higher if they had been calculated without controls.

Since Permit # 052004-009B calculations were based on two more sterilization chambers and six more aeration rooms than the installation now has, existing potential emissions were recalculated rather than being taken from that existing permit. Existing actual emissions were taken from the 2012 Emissions Inventory Questionnaire (EIQ). The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> / SMAL Levels	Existing Installation- Wide Potential Emissions	Existing Actual Emissions (2012 EIQ)	Potential Emissions of New Sterilization Chamber	New Installation- Wide Potential Emissions
PM	25.0	2.40	N/D	N/A	2.40
PM ₁₀	15.0	1.14	0.32	N/A	1.14
PM _{2.5}	10.0	0.56	N/D	N/A	0.56
SO _x	40.0	0.04	0.01	N/A	0.04
NO _x	40.0	12.29	1.73	N/A	12.29
VOC	40.0	7.75	2.27	1.37	9.12
CO	100.0	5.43	1.45	N/A	5.43
HAP, single (ethylene oxide)	10.0/0.1	7.39	N/D	1.37	8.76
HAP, total	25.0	7.51	N/D	1.37	8.88
GHG (mass)	250.0	7,764	N/D	N/A	7,764
GHG (CO _{2eq})	100,000	8,205	N/D	N/A	8,205

N/A = Not Applicable N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10 6.060, Construction Permits Required. Potential emissions of HAPs are conditioned to de minimis levels and potential emissions of all other air pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Midwest Sterilization Corporation shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110*
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin, 10 CSR 10-6.170*
- *Restriction of Emission of Visible Air Contaminants, 10 CSR 10-6.220*
- *Restriction of Emission of Odors, 10 CSR 10-6.165*

SPECIFIC REQUIREMENTS

- *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating, 10 CSR 10-6.405.* However, the natural gas fired boilers are deemed to be always in compliance.
- *MACT Regulations, 10 CSR 10-6.075*
 - *Ethylene Oxide Emissions Standards for Sterilization Facilities, 40 CFR Part 63, Subpart O*

AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed prior to issuing Permit # 052004-009B. This modeling was done to determine the ambient impact of ethylene oxide, since annual emissions of that HAP are above its screening model action level (SMAL) of 0.1 ton per year.

Because it has one less sterilization chamber, the installation's potential emissions of ethylene oxide are now less than they were when Permit # 052004-009B. Therefore no additional modeling was done.

Special Condition 3, which was added to Permit # 052004-009B to ensure that the RAL for ethylene oxide would not be exceeded, has been carried over to this permit.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Cheryl Steffan
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 19, 2013, received August 5, 2013, designating Midwest Sterilization Corporation as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SIC	Standard Industrial Classification
GHG	Greenhouse Gas	SIP	State Implementation Plan
gpm	gallons per minute	SMAL	Screening Model Action Levels
gr	grains	SO_x	sulfur oxides
GWP	Global Warming Potential	SO₂	sulfur dioxide
HAP	Hazardous Air Pollutant	tph	tons per hour
hr	hour	tpy	tons per year
hp	horsepower	VMT	vehicle miles traveled
lb	pound	VOC	Volatile Organic Compound
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Douglas M. Tropf
Regulatory Affairs Manager
Midwest Sterilization Corporation
P.O. Box 411
Jackson, MO 63755

RE: New Source Review Permit - Project Number: 2013-08-009

Dear Mr. Tropf:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions and your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Cheryl Steffan at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:csl

Enclosures

c: Southeast Regional Office
PAMS File: 2013-08-009

Permit Number: