



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
STEVEN E. CHESTER, Director

AIR QUALITY DIVISION
CONSTITUTION HALL, PO BOX 30260, LANSING MI 48909
INTERNET: <http://www.michigan.gov/deq>

**GENERAL PERMIT TO INSTALL FOR
ETHYLENE OXIDE STERILIZERS**

May 28, 1997
Revised February 12, 2004

SUMMARY

On May 28, 1997, the Air Quality Division (AQD) of the Michigan Department of Environmental Quality (Department) issued the attached general permit to install for ethylene oxide (EtO) sterilizers. This general permit is applicable to EtO sterilizers, which are commonly used at hospitals to sterilize and fumigate medical equipment. This general permit was issued pursuant to R 336.1201a of the Administrative Rules for Air Pollution Control (Rule 201a), and provides a streamlined permitting alternative for the affected facilities. The general permit has been revised and/or updated as follows:

- July 20, 1999 – allowed alternative methods of drawing a vacuum and evacuating the sterilizer chamber, if the alternative method prevents any discharge of EtO to a wastewater stream.
- March 20, 2000 - addressed the issue of applicability for a source, process or process equipment that may be identified in a consent order or consent judgement. Deleted the Stack or Vent Information form (EQP5728) and moved information to the Process form (EQP5730).
- September 29, 2000 - included a new version of the General Information form (EQP5727) and revised General Condition language.
- January 2002 and January 2003 - updated General Conditions and made minor administrative changes (i.e., addresses, formatting, etc.).
- February 12, 2004 – changed the format of the special conditions and removed the temperature recording requirement for catalytic oxidizers. Most catalytic oxidizers monitor the catalyst bed temperature and prevent operation or further introduction of EtO if the operating temperature is too high or low.

BACKGROUND

Rule 201a allows the Department to issue a general permit to install covering numerous similar stationary sources, processes or process equipment, after public notice and opportunity for public participation. The use of general permits provides a streamlined permitting alternative for processes that meet the following criteria:

- a) The processes must produce the same or reasonably similar products.
- b) The processes must emit the same or similar air contaminants.
- c) The method for capturing and controlling the air contaminants must be the same or limited to a small number of specific alternatives.
- d) The processes must be subject to the same emission limitations, monitoring requirements, federal standards, or state rules.

A person who owns or operates a stationary source, process or process equipment, which qualifies for a general permit to install approved by the Department, may apply for coverage under the terms and conditions of the general permit. Owners/operators who apply to the Department for coverage under the general permit to install must certify that the equipment they will be installing meets the

necessary criteria for applicability and that they will comply with the special conditions of the permit. These conditions may include site restrictions, emission limits, material usage limits, and/or annual production limits, which are necessary to ensure that the equipment will operate in compliance with all applicable rules for air pollution control. A person also has the option of applying for a case-by-case permit to install pursuant to Rule 201 if they are unable to comply with the conditions of the general permit to install.

On March 28, 1997, the Department proposed a general permit to streamline the review of permit applications for EtO sterilizers. The Department held a comment period from March 28, 1997 to April 28, 1997 to receive comments on the proposed general permit. A public hearing was not requested and the Department received no written comments during the comment period.

APPLICABLE REQUIREMENTS

The following state and federal requirements are considered to be applicable to all sources, processes, or process equipment and are addressed in the General Conditions of the permit.

| <u>Citation</u> | <u>Description</u> |
|------------------------|---|
| R 336.1201a | State rule that gives the Department authority to issue a general permit to install. |
| R 336.1201(4) | State rule that gives the Department authority to void a permit. |
| R 336.1207(1) | State rule that gives the Department authority to deny a permit. |
| R 336.1219 | State rule that requires written notification of change of ownership. |
| R 336.1301 | State rule that sets the standards for density of particulate emissions. |
| R 336.1370 | State rule that requires the proper disposal of collected air contaminants. |
| R 336.1901 | State rule that prohibits the emission of air contaminants, which interfere with the enjoyment of life and property and/or has injurious effects to health or safety. |
| R 336.1910 | State rule that requires a pollution control device be operated properly. |
| R 336.1912 | State rule that requires notice of abnormal conditions or malfunctions, which result in emissions in excess of the standards. |
| R 336.2001, 2003, 2004 | State rules that allow the Department to request performance testing, and specify how the test should be conducted. |

The following state and federal requirements are applicable to EtO sterilizers and were considered in the development of the general permit to install. These requirements are addressed in the Special Conditions of the permit.

| <u>Citation</u> | <u>Description</u> |
|-----------------|---|
| R 336.1205 | State rule that requires a permit to limit the amount of potential emissions. |
| R 336.1702(1) | State rule that outlines general provisions for new sources of volatile organic compounds. This rule requires Best Available Control Technology (BACT) be applied to control VOC emissions from new sources. |
| R 336.1225 | State rule that applies to sources of air toxics. This rule requires Best Available Control Technology for toxics (T-BACT) to be applied to sources emitting air toxics, and requires the emissions from the process meet the allowed impact levels. In the case of EtO sterilizers to be covered by this general permit to install, the use of control technology, which reduces EtO emissions by 99.9%, is necessary to meet the allowed impact levels. |
| 40 CFR 63.365 | Federal test method for stack testing for EtO emissions. |

The following state and federal requirements have been reviewed and are considered not applicable to EtO sterilizers, which may use the general permit to install.

| <u>Citation</u> | <u>Description</u> |
|---------------------------|---|
| 40 CFR Part 82 | Protection of Stratospheric Ozone. This regulation limits the production and consumption of substances that deplete the ozone layer according to specified schedules. Though sterilizers use some of these substances, this requirement does not apply because the source does not meet the applicability criteria. |
| 40 CFR Part 63, Subpart O | Ethylene Oxide Emissions Standards for Sterilization Facilities. All sterilization sources using one or more tons of EtO in sterilization or fumigation operations are subject to emission standards, recordkeeping, compliance and performance testing, and monitoring requirements. The regulation does not apply to sterilization operations covered by this general permit because the source will be limited to using less than one ton of EtO per year. However, the protocol for performance testing specified in this federal regulation is incorporated in this general permit to install. |

APPLICABILITY CRITERIA

To qualify for the general permit to install based on the listed applicable requirements; the EtO sterilizers must meet the following criteria:

- The general permit to install shall apply to EtO sterilizers with a capacity not to exceed 30 cubic feet per unit, and associated aeration equipment.
- The sterilization and aeration processes must include an acid-water scrubber or catalytic oxidation unit that is guaranteed by the manufacturer to reduce EtO emissions to the atmosphere by at least 99.9%.
- The combined EtO usage rate for all sterilization processes at the stationary source shall not exceed 6.5 pounds per day, or 141.1 pounds per month.
- The exhaust gases from the process must be discharged unobstructed vertically upwards to the ambient air at an exit point not less than 25 feet above ground level. The discharge must be located a minimum of 25 feet from any window, air intake vent, or any location accessible by the general public.
- The process must use a closed loop recirculating-fluid vacuum pump, an air ejector system, or other method of drawing a vacuum and evacuating the sterilizer chamber that prevents any discharge of EtO to a wastewater stream.
- The sterilant gas must consist of either 100% EtO, or an EtO/inert gas mixture. Acceptable inert gases include 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124), carbon dioxide, or a hydrochloro-fluorocarbon (HCFC) blend, which includes only toxic air contaminants (TAC) for which the initial threshold screening level (ITSL) as defined in R 336.1109(e) is equal to or greater than 5000 micrograms per cubic meter on a 24 hour average.
- The general permit shall not apply to a source, process, or process equipment that is included in an existing permit to install pursuant to Rule 201 and is further referenced in an outstanding consent order or consent judgement.

PERMIT CONDITIONS

The general permit to install must be consistent with the permit content requirements of Rule 205(1)(a). This rule requires that if a permit to install includes limitations which restrict the potential to emit of a stationary source, process, or process equipment to a quantity below that which would constitute a major source, the permit shall contain emission limits which are enforceable as a practical matter.

Attachment A lists the terms and special conditions of the general permit to install. These terms and conditions prescribe the applicable emission limits; material usage limits; process/operational limits;

equipment restrictions; testing, monitoring, and recordkeeping requirements; and stack restrictions which are necessary to ensure that EtO sterilizers will comply with all state and federal applicable requirements.

EMISSIONS

The table below shows the emissions that are allowed pursuant to the terms and special conditions. The annual limits are based on a 12-month rolling time period as determined at the end of each calendar month.

| Pollutant | Hourly Emissions (pounds per hour) | Annual Emissions (tons per year) |
|--------------------------|---|---|
| VOC* | 0.006 | 0.0008 (1.69 pounds / year) |
| HCFC | 62.3 | 9.0 |
| Individual HAPs** | | |
| EtO | 0.006 | 0.0008 (1.69 pounds / year) |

*Volatile Organic Compound emissions include EtO

**HAPs = Hazardous Air Pollutants

AMBIENT AIR IMPACTS

Operation of EtO sterilizers and aerators under the general permit to install terms and conditions will impact the ambient air as summarized in the following table. These impacts were calculated using a maximum emission rate and a worst case dilution factor based on modeling results of nine different hospitals. All emissions from sterilizers occur intermittently, with the worst hourly emissions taking place at the end of the sterilizing cycle, during the initial evacuation of the sterilizer. The intermittent nature of the emissions was taken into consideration in calculating the maximum predicted ambient impact.

| Pollutant | Averaging Time | Acceptable Impact | Basis | Predicted Maximum Impact |
|------------------|-----------------------|--------------------------|--------------------|---------------------------------|
| EtO | Annual | 0.03 ug/m ³ | Rule 225(1) IRSL* | 0.0267 ug/m ³ |
| Inert Gas | 24 hour | 5000 ug/m ³ | Rule 225(1) ITSL** | 2772 ug/m ³ |

* Initial Risk Screening Level as defined in R 336.1109(d)

** Initial Threshold Screening Level as defined in R 336.1109(e) for HCFC-124

APPLICATION FOR A GENERAL PERMIT

If the owner/operator of an EtO sterilizer decides to install and operate the process under the terms of the general permit to install then it is the responsibility of the owner/operator to apply to the Department for coverage under the general permit. Installation of equipment prior to granting of a permit to install, including coverage under a general permit to install, is a violation of Rule 201.

Application forms, which include all information necessary to determine qualification for and to ensure compliance with the general permit to install, are attached. The final forms are also available on the Internet or may be obtained by contacting Ms. Karla Lowrie at 517-373-7066. The Air Quality Permit Web Page is located at <http://www.deq.state.mi.us/aps>.

The owner/operator shall submit the application forms to the AQD Permit Section. Upon receipt by the AQD, Permit staff will review the application for completeness. The general permit to install for the EtO sterilizers will be granted by the Department to sources, processes or process equipment that qualify, within 30 days of receipt of a complete application. The AQD will mail to the facility a copy of

the general permit to install and a letter acknowledging that the AQD is aware that the facility owner/operator intends to install and operate the EtO sterilizer in accordance with the terms and conditions of the general permit. The Department will maintain and make available to the public, upon request, a list of the persons that have been authorized to install and operate a stationary source, process or process equipment pursuant to each general permit to install issued by the Department.

**ATTACHMENT A
GENERAL CONDITIONS**

1. The process or process equipment covered by this general permit to install shall not be reconstructed, relocated, or modified unless a Permit to Install pursuant to Rule 201 authorizing such action is issued by the Department, or an application for coverage under a General Permit to Install pursuant to Rule 201a, is submitted to and approved by the Department. For the purpose of a general permit to install, the permittee is defined as any person who owns or operates a process or process equipment at the source for which coverage under the general permit has been granted.
2. Operation of any process or process equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **[R336.1901]**
3. Operation of this equipment shall not interfere with the attainment or maintenance of the air quality standard for any air contaminant. **[R336.1207(1)(b)]**
4. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5).
5. Coverage under this general permit to install does not exempt the permittee from complying with any future regulation, which may be promulgated under Part 55 of 1994 PA 451.
6. Coverage under this general permit to install does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
7. The permittee shall notify any public utility of any excavation, tunneling and discharging of explosives or demolition of buildings which may affect said utility's facilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled laws and comply with each of the requirements of that Act.
8. The restrictions and conditions of this general permit to install shall apply to any person or legal entity which now or shall hereafter own or operate the equipment for which coverage under this general permit to install is issued. A written request to the Department for a change in ownership or operational control of the process or process equipment shall be made pursuant to Rule 219.
9. If the installation of the equipment for which coverage under this general permit to install has been issued, has not commenced within, or has been interrupted for, 18 months, then the general permit to install shall become void unless otherwise authorized by the Department as a condition of the permit. Furthermore, the permittee shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation or construction of the equipment allowed by this general permit to install. **[R336.1201(4)]**

10. Except as provided in subrules (2) and (3) or unless the special conditions of the general permit to install include an alternate opacity limit established pursuant to subrule (4) of R336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R336.1303. **[R336.1301(1)]**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this general permit to install.
11. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R336.1370(2). **[R336.1370]**
12. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **[R336.2001]**
13. Any required testing protocol shall conform to a format acceptable to the AQD. **[R336.2003(1)]**
14. Any required test results, which must be submitted to the AQD, shall conform to a format acceptable to the AQD. **[R336.2001(4)]**
15. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **[R336.1910]**
16. For a stationary source that becomes a major source, as defined by R336.1211(1)(a), upon receipt of approval for coverage under this general permit to install, an administratively complete application for a renewable operating permit shall be submitted not more than 12 months after the stationary source commences operation as a major source. Commencing operation as a major source occurs upon commencement of trial operation of the new or modified process or process equipment that increased the potential to emit of the stationary source to more than or equal to the applicable major source definition specified in R336.1211(1)(a).
17. For a stationary source that is already a major source with an existing renewable operating permit, the source shall notify the Department of the installation of the process or process equipment covered by this general permit, pursuant to R336.1215(3) or apply for a modification pursuant to R336.1216(2) prior to commencing operation. The notification or application to modify the renewable operating permit shall be made using a form approved by the Department.

ATTACHMENT A SPECIAL CONDITIONS

Flexible Group Identification

| Flexible Group ID | Emission Unit(s)Included in Group - Description |
|---|---|
| FGSTERILIZERS | One or more ethylene oxide (EtO) sterilizers, with a capacity not to exceed 30 cubic feet per unit, and associated aeration equipment. Each unit shall be controlled by an acid-water scrubber or catalytic oxidizer that is guaranteed by the manufacturer to reduce EtO emissions by at least 99.9%. [R336.1201a(1), R336.1225(1)] |
| Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 to R336.1290. | |

The following conditions apply to: FGSTERILIZERS

Emission Limits

| | Pollutant | Equipment | Limit | Time Period | Testing/Monitoring Method | Applicable Requirement |
|----------------------------------|-----------|---------------|--------------------------------|----------------|---------------------------|----------------------------|
| 1.1a | EtO | FGSTERILIZERS | 0.006 lb/hr | Hourly | SC 1.7 | R336.1205, R336.1225(1) |
| 1.1b | EtO | FGSTERILIZERS | 0.0001 ton/mo (0.141 lb/mo) | Calendar month | SC 1.9 | R336.1205, R336.1225(1) |
| 1.1c | HCFC* | FGSTERILIZERS | 62.3 lb/hr | Hourly | SC 1.7 | R336.1205, R336.1225(1) |
| 1.1d | HCFC | FGSTERILIZERS | 0.75 ton/mo | Calendar month | SC 1.9 | R336.1205, R336.1225(1) |
| * HCFC = Hydrochlorofluorocarbon | | | | | | |

Material Usage Limits

- 1.2 The permittee shall use a sterilant gas, which consists of 100% EtO or an EtO/inert gas mixture. Acceptable inert gases include 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124), carbon dioxide (CO₂), or a HCFC blend, which includes only toxic air contaminants for which the initial threshold screening level (ITSL) is equal to or greater than 5000 micrograms per cubic meter on a 24 hour average. **[R336.1225(1)]**
- 1.3 The permittee shall not use more than 6.5 pounds of EtO per calendar day, nor 141.1 pounds of EtO per calendar month in FGSTERILIZERS. **[R336.1205]**
- 1.4 The permittee shall not use more than 69.23 pounds of HCFC per calendar day, nor 1,500 pounds of HCFC per calendar month in FGSTERILIZERS. **[R336.1205]**

Process/Operational Limits

- 1.5 The permittee shall not operate any sterilizer or aerator of FGSTERILIZERS unless the associated acid-water scrubber or catalytic oxidizer is installed, maintained and operated properly according to the manufacturer's specifications. Proper operation requires a minimum of 99.9% reduction (by weight) of EtO emissions to the atmosphere. A copy of the manufacturer's specifications for the control device shall be maintained on file. **[R336.1205, R336.1225(1), R336.1910]**

Equipment

- 1.6 The permittee shall not operate any sterilizer of FGSTERILIZERS unless a closed loop recirculating-fluid vacuum pump, an air ejector system, or other method of drawing a vacuum and evacuating the sterilizer chamber that prevents the discharge of any EtO to a wastewater stream, is installed, maintained, and operated in a satisfactory manner. **[R336.1201a(1)]**

Testing

- 1.7 Verification and quantification of EtO emission rates from FGSTERILIZERS and control device efficiency, by testing at owner's expense, in accordance with Department requirements, may be required for continued operation. Refer to 40 CFR 63.365 for test methods and procedures. Within 60 days of notification, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **[R336.2001(1), R336.2001(2), R336.2001(4), R336.2003, 40 CFR 63.365]**

Monitoring

- 1.8 The permittee shall monitor an operating parameter of the control device, based on either manufacturer's specifications or a performance test, which assures at least 99.9% reduction of EtO emissions. A copy of the manufacturer's specifications for the control device shall be maintained on file. **[R336.1225, R336.1910]**
- a) For processes controlled by an acid-water scrubber: Measure and record once per week, either the maximum ethylene glycol concentration of the scrubber liquor, or the level of the scrubber liquor in the recirculation tank.
- b) For processes controlled by a catalytic oxidizer: Continuously monitor the oxidation temperature in the catalyst bed.

Recordkeeping/Reporting/Notification

- 1.9 The permittee shall keep, in a satisfactory manner, separate daily and monthly records of the amount of EtO and any inert gas used in each sterilizer, in pounds per cycle. **[R336.1205, R336.1225(1)]**
- 1.10 The permittee shall calculate the EtO emission rates from FGSTERILIZERS for each month as outlined in Appendix A. **[R336.1205, R336.1225(1)]**
- 1.11 The permittee shall keep, in a satisfactory manner, records of the date, duration, and description of any malfunction of the control equipment, any maintenance performed, any replacement of catalyst or scrubber liquor and any testing results for FGSTERILIZERS. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **[R336.1225, R336.1910]**

Stack/Vent Restrictions

- 1.12 The exhaust gases from FGSTERILIZERS shall be discharged unobstructed vertically upwards to the ambient air at an exit point not less than 25 feet above ground level. The discharge must be located a minimum of 25 feet from any window, air intake vent, or any location accessible by the general public. **[R336.1225(1)]**

Miscellaneous/Allowed Modification

- 1.13 The permittee shall not replace or modify FGSTERILIZERS, or any portion of FGSTERILIZERS, including control equipment, unless all of the following conditions are met: **[R336.1201a(1)]**
- a) The permittee shall update the general permit by submitting a new Process Information Form (EQP5730) to the Permit Section and District Supervisor, identifying the existing and new equipment a minimum of 10 days before the equipment is replaced or modified.
- b) The permittee shall continue to meet all general permit to install applicability criteria after the replacement or modification is complete.
- c) The permittee shall keep records of the date and description of the replacement or modification.



GENERAL PERMIT TO INSTALL APPLICATION

GENERAL INFORMATION

FOR DEQ USE ONLY
PERMIT NUMBER

Authorized under 1994 PA 451, as amended. Completion of form is required. Applicant may be subject to civil and/or criminal penalties for providing false information.

Instructions: Use this form to request authority to install and operate a source, process or process equipment under the terms and conditions of a general permit to install pursuant to Rule 201a. Prepare this form together with one or more of the forms identified in Item 19, according to type of source, process or process equipment, which will be installed and operated. Please submit all information, including forms, in duplicate. NOTE: This general permit does not apply to a source, process, or process equipment that is included in a Permit to Install pursuant to Rule 201 and is further referenced in an outstanding consent order or consent judgement.

1. FACILITY CODES
STATE REGISTRATION NUMBER (SRN) [] [] [] [] [] STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE [] [] [] []
2. APPLICANT NAME (Business license name of the corporation, partnership, individual or government agency that owns the facility)
3. APPLICANT MAILING ADDRESS (Street Address or P.O. Box Number)
4. CITY 5. STATE 6. ZIP CODE
7. NAME OF AUTHORIZED COMPANY MEMBER
8. TITLE (person identified in Item 7) 9. TELEPHONE NO. (person identified in Item 7)
10. CONTACT PERSON (technical point of contact, if different than name in Item 7) 11. TELEPHONE NO. (contact person)
12. EQUIPMENT OR PROCESS LOCATION (complete Items 12 - 15 if different than mailing address)
13. CITY 14. ZIP CODE 15. COUNTY
16. EQUIPMENT IS (check one) [] New [] Existing 17. PRIOR AIR PERMIT NO. (existing equipment only)
18. EQUIPMENT OR PROCESS INSTALLATION TIMETABLE (enter dates in Items 18a - 18d for those which apply)
FOR NEW EQUIPMENT (PROCESS INSTALLATION OR CONSTRUCTION) 18a. START DATE 18b. COMPLETION DATE
FOR EXISTING EQUIPMENT (PROCESS MODIFICATION OR RELOCATION) 18c. START DATE 18d. COMPLETION DATE
19. THE FOLLOWING COMPLETED FORMS ARE ATTACHED TO AND MADE A PART OF THIS PERMIT APPLICATION (check all that apply)
TYPE OF FORM NUMBER ATTACHED
[] EQP [] [] [] [] [] PROCESS INFORMATION
(complete one form for each process - insert form number and type of process in spaces provided)
[] EQP5729 - ADDITIONAL INFORMATION
Applicant Certification: I certify, under penalty of law, that this permit application and the attachments identified in Item 19 were prepared by me, or under my direction or supervision in accordance with a system to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. In addition, the equipment described in this application meets the necessary criteria for applicability for a General Permit to Install. Furthermore, I certify that I can and will comply with all conditions outlined in the General Permit to Install. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.
20. SIGNATURE (person identified in Item 7) 21. DATE

Submit this completed application and the attachments identified in Item 19 to:
PERMIT SECTION, AIR QUALITY DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
P.O. BOX 30260, LANSING, MI 48909-7760

Table with 2 columns: DEQ USE ONLY - DO NOT WRITE BELOW, and rows for DATE APPLICATION COMPLETE, DATE GENERAL PERMIT TO INSTALL GRANTED, DATE GENERAL PERMIT TO INSTALL REVOKED, DATE OF DETERMINATION OF NON-APPLICABILITY, SIGNATURE.



GENERAL PERMIT TO INSTALL APPLICATION

ADDITIONAL INFORMATION

| |
|------------------|
| FOR DEQ USE ONLY |
| PERMIT NUMBER |

Authorized under 1994 PA 451, as amended. Completion of form is required if additional information is needed to make an application complete. Applicant may be subject to civil and/or criminal penalties for providing false information.

Instructions: Use this form to include additional information or attachments. Prepare and submit this form with General Information form (EQP5727).

| | |
|--|---|
| <p>1. FACILITY CODE</p> <p>STATE REGISTRATION NUMBER (SRN) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> | <p>2. ID (Provide the identification number of the device, emission unit or stack/vent for which additional information is being submitted.)</p> <p><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> |
|--|---|

3. WHAT TYPE OF ADDITIONAL INFORMATION ARE YOU SUBMITTING WITH THIS APPLICATION? (check all that apply)

ATTACHMENT (if checked, describe and list what is attached. May include drawings, charts, calculations, assumptions, etc.)

TECHNICAL (Specialized information regarding the installation, construction, or use of a process or stack/vent)

GENERAL (Any supplemental information that is not technical information)

4. ADDITIONAL INFORMATION NARRATIVE (A brief description of the information or attachment. May include calculations, design parameters, small diagrams, etc.)



GENERAL PERMIT TO INSTALL APPLICATION PROCESS INFORMATION - ETHYLENE OXIDE STERILIZER

FOR DEQ USE ONLY

PERMIT NUMBER

Authorized under 1994 PA 451, as amended. Completion of form is required. Applicant may be subject to civil and/or criminal penalties for providing false information.

Instructions: Use this form to request authority to install and operate an ethylene oxide (EtO) sterilizer under the terms and conditions of a general permit to install pursuant to Rule 201a. Complete a separate copy of this form for each sterilizer to be covered by the general permit. Prepare and submit this form with the General Information form (EQP5727). **For a Modification:** Complete and certify this form and submit to the Permit Section and the District Supervisor. Clearly describe and identify all existing and new or additional equipment in Item No. 2.

| |
|--|
| 1. FACILITY CODE |
| STATE REGISTRATION NUMBER (SRN) |
| 2. DESCRIPTION <i>(Brief description of the sterilizer. Include manufacturer and model.)</i> |

Instructions for completing Items 3 and 4: The sterilizer and associated stack/vent should be linked, by assigning each a unique identification number (ID). The ID may be any combination of up to 10 letters, numbers or keyboard characters with no spaces between characters. If this equipment has an ID assigned from a previous Permit to Install or Renewable Operating Permit, please use the existing ID. If Items 3 and 4 are left blank, IDs will be assigned by the AQD. Check or complete all items that apply.

| | |
|---|-----------|
| 3. EMISSION UNIT ID <i>(Assign an identification number for the sterilizer.)</i> | EU |
| 4. STACK/VENT ID <i>(Assign an identification number for the stack/vent.)</i> | SV |
| 5. NUMBER OF STERILIZERS TO BE COVERED BY THIS GENERAL PERMIT <i>(A separate copy of this form is required for each sterilizer.)</i> | |
| 6. STERILIZER CAPACITY IN CUBIC FEET <i>(Capacity not to exceed 30 cubic feet to be eligible for this general permit.)</i> | |

| 7. COMPOSITION/AMOUNT OF EACH STERILANT GAS USED PER CYCLE | | | | |
|--|----------|----------------|--------------|--------------|
| STERILANT GAS | % WEIGHT | POUNDS / CYCLE | CYCLES / DAY | DAYS / MONTH |
| EtO | | | | |
| HCFC-124 | | | | |
| CO ₂ or OTHER <i>(Describe "other" using Form EQP5729)</i> | | | | |

| |
|---|
| 8. TYPE OF CONTROL DEVICE <input type="checkbox"/> ACID-WATER SCRUBBER <input type="checkbox"/> CATALYTIC OXIDIZER |
| 9. CONTROL DEVICE EFFICIENCY (%) |
| 10. CONTROL EFFICIENCY BASIS <input type="checkbox"/> MANUFACTURER'S GUARANTEE <input type="checkbox"/> PERFORMANCE TESTING |
| 11. DOES THE STERILIZATION PROCESS USE A VACUUM AND EVACUATION METHOD THAT PREVENTS ANY DISCHARGE OF EtO TO A WASTEWATER STREAM? <i>(If NO, this process is not eligible for a general permit.)</i> <input type="checkbox"/> YES <input type="checkbox"/> NO |
| 12. IF THE CONTROL DEVICE HAS A BYPASS MODE, DESCRIBE THE CIRCUMSTANCES AND DURATION FOR WHICH THE PROCESS WOULD OPERATE IN THE BYPASS MODE. <i>(Attach Additional Information Form EQP5729 if necessary)</i> |
| 13. IS THE EXHAUST DISCHARGED UNOBSTRUCTED VERTICALLY UPWARDS AT LEAST 25 FEET ABOVE GROUND? <input type="checkbox"/> YES <input type="checkbox"/> NO |
| 14. IS THE STACK DISCHARGE POINT LOCATED AT LEAST 25 FEET FROM ANY WINDOW, AIR INTAKE VENT, OR ANY LOCATION ACCESSIBLE BY THE GENERAL PUBLIC? <input type="checkbox"/> YES <input type="checkbox"/> NO |

Applicant Certification: I certify, under penalty of law, that this permit application and any attachments were prepared by me, or under my direction or supervision in accordance with a system to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. In addition, the equipment described in this application meets the necessary criteria for applicability for a General Permit to Install. Furthermore, I certify that I can and will comply with all conditions outlined in the General Permit to Install. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

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|----------------------------------|------|
| SIGNATURE OF AUTHORIZED EMPLOYEE | DATE |
|----------------------------------|------|