

Ethylene oxide: Technical Reviews and Outreach to Potentially Affected Communities Status Report -- Sterigenics Cobb County, Smyrna, Georgia

As EPA pursues its mission to protect public health and the environment, addressing ethylene oxide (EtO) remains a major priority for the Agency. EPA's National Air Toxics Assessment (NATA), released in August 2018, identified a number of areas (census tracts) with potentially elevated risk from continuous exposure, over 70 years, to EtO in the outdoor air. NATA estimated these risks based on EtO emissions from 2014, which were the most recently available at the time.

NATA is a screening-level analysis that is intended to identify pollutants or areas for closer examination. Because of this, additional work is needed to better understand emissions in areas that NATA identified as potentially having elevated risk. EPA has been supporting its state air agency partners as they conduct that work and identify opportunities for reducing EtO emissions from individual facilities, while the Agency reviews its national regulations for industrial facilities that emit EtO. Actual risks today may be higher or lower than NATA estimated due to several factors, including updated or more refined facility emissions information, or recent facility changes such as the installation of pollution controls.

The information below describes the technical analyses conducted for Sterigenics Cobb County as part of the follow-up work conducted since NATA was issued in August 2018. It also summarizes outreach to nearby communities about the NATA results. EPA is providing this information, in part, in response to the EPA Office of Inspector General's March 31, 2020, Management Alert which called on EPA to provide information to the 25 communities that NATA identified as potentially having the highest risk from EtO emissions.

Note: For commercial sterilizers, including Sterigenics, EPA is compiling more current and complete emissions data to generate new risk estimates for ethylene oxide sterilizers across the country as part of its work to develop a proposed revision for the National Emissions Standards for Hazardous Air Pollutants for EtO sterilization facilities. EPA will share this information, which will include refined risk estimates at the census block level, with the public as part of its upcoming proposed rule.

Technical reviews conducted

Permit Reviews

- Permits issued and reviewed by the Georgia Environmental Protection Division (GA EPD) can be found at <https://epd.georgia.gov/ethylene-oxide-information>.

Modeling

- GA EPD performed modeling using Sterigenics emissions data to estimate EtO concentrations/risks in the area around the Sterigenics facility (report dated June 7, 2019). The results of the modeling are summarized in a memo found here: <https://epd.georgia.gov/sterigenics-us-llc>.

- GA EPD modeled two emissions scenarios: (1) Pre-control emissions that were current at the time the modeling was done in May 2019; and (2) post-control emissions representing emissions reductions from controls proposed by Sterigenics.
- The results of the modeling showed risks above GA EPD's Acceptable Ambient Concentration (AAC) risk levels for both the pre-control and post-control emissions scenarios, with an approximate 50% reduction in risks from the proposed emissions controls.
- The modeling and risk analysis helped inform GA EPD's decision to conduct ambient air monitoring and the installation of additional emissions controls at the facility.

Operations, Consent Orders, and Controls Installed

- On August 7, 2019, Sterigenics entered into a Consent Order (Order) with GA EPD, and pursuant to the Order, the Cobb County facility commenced installing additional equipment to control EtO emissions.
- On August 26, 2019, Sterigenics shut down operations and resumed operations on April 8, 2020. In addition to existing controls (scrubbers) on the aeration room, Sterigenics installed new fugitive emission controls (dry bed scrubbers).
- On March 26, 2020, the chairman of the Cobb County Board of Commissioners issued an Order pursuant to a declaration of emergency granting the Sterigenics facility in Smyrna permission to temporarily resume operation to sterilize personal protective equipment (PPE) to help with the COVID-19 response. The county's order required Sterigenics to take steps to address outstanding county permit issued by April 1, 2020. The order also restricted the numbers of drums of ethylene oxide that may be on site at any one time and required reporting of spills, leaks or life-threatening incidents within one hour of occurrence.
- On March 30, 2020, Sterigenics filed a complaint in federal court against three Cobb County officials seeking declaratory judgment, a temporary restraining order (TRO) and preliminary injunction. (On November 10th, the court denied Cobb County's motion to dismiss the lawsuit, clearing the path for the case to proceed.)
- On April 1, 2020, the US District Court for the Northern District of GA granted Sterigenics a TRO for a duration of 14 days. Pursuant to the TRO, Cobb County officials were temporarily restrained from precluding Sterigenics from resuming normal sterilization operations at the Atlanta Facility.
- On April 8, 2020, the Court issued a Consent Order authorizing Sterigenics to continue normal operations until the court enters a final judgment on the claims in the lawsuit. (This removed the 14-day operation time limit set under the TRO).
- The new scrubbers were operational upon startup on April 8, 2020. The new dry bed scrubbers are designed to remove/control 99.9% of the EtO from the fugitive emissions.
- On May 12, 2020, GA EPD terminated the Sterigenics order. EPD confirmed that the Cobb County facility was in full compliance with the order and had completed all requirements including, but not limited to, constructing and installing the new air pollution control equipment, and implementing a work practice plan.
- Successful testing was completed on all controls (new and existing) by June 26, 2020.
- Details of the existing controls can be found in the permits on GA EPD's website along with the results of any testing performed and the new permit application at <https://epd.georgia.gov/sterigenics-us-llc>.
- EPA Region 4 staff will evaluate any new emissions data submitted by the State to the EPA's emissions inventory system on an ongoing basis.

Ambient Monitoring

- GA EPD is collecting ambient air monitoring samples in the vicinity of the Sterigenics/Cobb County facility under a quality assurance project plan concurred on by EPA Region 4. Sampling began September 2019 and is ongoing. Once validated, sample results are uploaded to GA EPD's website (<https://epd.georgia.gov/ethylene-oxide-information>).
- In July 2020, EPA spoke with Stop Sterigenics to explain why the public release of data can take up to two months after a sample is collected.
- In September 2020, EPA announced that GA EPD was selected to receive a Community-Scale Ambient Air Toxics Monitoring Grant. With this funding (\$571,670), GA EPD plans to evaluate new technology for measuring ethylene oxide and to continue the evaluation of ambient ethylene oxide concentrations in three communities (including the area around Sterigenics), one rural area, and one urban background area to provide a larger dataset to encompass process changes of the identified facilities and the impact to the associated communities.
- Region 4 conducted a data review to evaluate variability in data collection, data uncertainty, and method uncertainty. Results of the review were shared with EPA headquarters and GA EPD.

Inspections

- GA EPD has inspected and performed various compliance monitoring activities regarding the facility since NATA was issued and has discussed those with EPA Region 4. Inspection reports, stack test reports and test report reviews are available on the GA EPD website at <https://epd.georgia.gov/sterigenics>. In addition, compliance monitoring information summaries also are available through EPA's Enforcement and Compliance History Online database at <https://echo.epa.gov/>

Analytical Support

- Region 4 and GA EPD have regular calls to discuss issues such as sampling, data, questions on the analytical method, and studies conducted by other groups around the Atlanta area.
- EPA Region 4, in coordination with OAQPS, continues to provide technical assistance to GA EPD on questions and issues regarding sample collection, laboratory analysis, and data evaluation.
- As a QA/QC measure requested by GA EPD in December 2019, ERG analyzed a South Dekalb sample and sent the canister to EPA R4 for secondary analysis.

Outreach conducted

- Region 4 has closely coordinated with EPD to provide information to the public and government officials on air emissions of ethylene oxide (EtO), particularly from several commercial sterilizers in the Atlanta area.
 - In collaboration with GA EPD and other government agencies, EPA held an open house and community meeting, on August 19, 2019, for communities around the Cobb County, Georgia, Sterigenics sterilizer facility. More than 800 people attended the meeting, which provided an opportunity for EPA and EPD to relay information to and answer questions from the communities and the press about EtO emissions associated with the facility. In addition, more than 8,000 people viewed the meeting via live stream.
 - To facilitate the meeting, Region 4 worked with a professional facilitator and held several pre-meetings with community leaders to ascertain more of the on-the-ground concerns from the community.

- Community members were provided the opportunity to submit questions prior to the community meeting in anticipation of responses being provided at the meeting.
 - Other participants in the meeting included key community leaders, ATSDR, the Georgia Department of Public Health and the Southeast Pediatric Environmental Health Specialty Unit.
 - Based on attendees at this meeting and questions emailed to regional staff, Region 4 developed a community list serve which is used to provide periodic updates on EPA actions.
- Region 4 and GA EPD participated in a number of face-to-face meetings and calls to provide updates to elected officials and community leaders to explain each agency's role, findings, next steps, etc.
 - Together with GA EPD, Region 4 briefed members of congress, the City of Atlanta, the Fulton County Commission Chair, the Cobb County Commission, Cobb County Public Health Official, and the Cobb County Fire and Rescue Official.
- Region 4 provides updates to stakeholder email lists, as they become available (e.g., posting of the Commercial Sterilizer ANPRM).
- Region 4 provides updates to members of the congressional delegation and elected officials as updates are made and responds to questions from members of the delegation and their constituents
- EPA Region 4 created a dedicated email box for the public to submit questions and concerns which can be accessed from the EPA Region 4 Ethylene Oxide webpage.
- EPA Region 4 established a public facing Web page: <https://www.epa.gov/smyrna-eto> that includes the primary state and regional points of contact. The page also includes a Request for Information form that can be submitted by the public.
- GA EPD established a public facing Web page: <https://epd.georgia.gov/ethylene-oxide-information> .