

Ethylene oxide: Technical Reviews and Outreach to Potentially Affected Communities

Status Report -- Sterigenics US LLC, Willowbrook, Ill.

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 Willowbrook, 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, 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:

Sterigenics operated a commercial sterilizer that used EtO to sterilize medical equipment and other products in Willowbrook, Ill. from 1984 to 2019.

- **Closure:** Sterigenics announced it was permanently closing its Willowbrook location in September 2019, resulting in EtO emission reductions of more than 4,600 pounds per year. The facility had been subject to a State of Illinois seal order, issued in February 2019, which prohibited EtO use. Before the closure, Sterigenics received a construction permit from Illinois EPA to install new technology that would have achieved 99.9% control.

- **Air Monitoring:** EPA conducted initial short-term air sampling over three days in May 2018. EPA conducted [additional monitoring](#) at eight sites from November 2018 to March 2019. The highest average EtO concentrations were observed at the two sites closest to Sterigenics (100 meters).
- **Risk Assessment:** EPA conducted a [risk assessment](#), presented the results at the public meeting in Burr Ridge, Ill. on May 29, 2019 and posted a summary of the results to the Web. EPA posted the [full risk assessment](#) report to the Web on August 16, 2019.

Outreach conducted:

- **Websites:** EPA developed a Willowbrook-specific [website](#) in August 2018. [Illinois EPA](#) also has a website to keep stakeholders informed.
- **Public Meetings:** EPA attended a public meeting convened by Willowbrook Mayor Frank Trilla on August 28, 2018. EPA led public meetings on November 28, 2018 and May 28, 2019 to update the community. These meetings were organized with community and local officials' participation. Illinois EPA held a public meeting on August 1, 2019 to answer questions about Sterigenics' draft construction permit.
- **Meetings with Local Officials:** On September 28, 2018, November 29, 2018, and May 28, 2019, EPA held in-person meetings with elected officials and/or staff from the State of Illinois, the Village of Willowbrook and/or DuPage County. Representatives from Senator Durbin, Senator Duckworth and Congressman Lipinski's offices also attended the meetings. EPA held numerous meetings with village and state officials, along with congressional staff, about data from air monitoring near the Willowbrook facility. The agency also participated in numerous calls from individual officials at their request.
- **Meetings with Community Groups:** EPA held a series of [webinars](#) to present monitoring results and educate the local community about topics such as air toxics, risk assessment and EPA's rulemaking process. In addition, the agency held a meeting with community group leaders on May 28, 2019, to discuss risk assessment results so the groups could prepare to ask questions at the May 29, 2019 public meeting.