

Ethylene oxide: Technical Reviews and Outreach to Potentially Affected Communities

Status Report - Medline Industries, Waukegan, Illinois

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 Medline Industries in Waukegan, Ill., 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 Medline Industries, 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:

Medline Industries operates a commercial sterilization facility in Waukegan, Ill. It uses EtO to sterilize medical equipment.

- **Emission reductions:** Medline has a permit limit that it may not emit more than 150 pounds of EtO per year. This is more than a 95% reduction from 2014 levels.
- **Emission controls:** On May 23, 2019, Illinois EPA issued a construction permit to Medline to install equipment that would achieve greater than 99.9% control. The permit included the following improvements:
 - permanent total enclosure to eliminate fugitive emissions;
 - new scrubbers to reduce emissions; and

- continuous emissions monitoring to ensure that emission limits are met. These controls were required by a State of Illinois sterilizer law, known as [Public Act 101-0022](#) or the Matt Haller Act.
- **Stack Test:** On March 10-12, 2020, Medline conducted a stack test to demonstrate compliance with its construction permit. Illinois EPA approved these results on March 27, 2020.
- **Air Monitoring:** The [Lake County Health Department](#) conducted three phases of ambient air monitoring from June 2019 to May 2020. EPA provided technical assistance with monitor siting and data quality assurance.

Outreach conducted:

- **Websites:** EPA developed a Lake County-specific [website](#) in November 2018, which has been translated to [Spanish](#). [Illinois EPA](#) and the [Lake County Health Department](#) also have websites to keep stakeholders informed.
- **Public Meetings:** Illinois EPA held a public meeting on May 23, 2019 to answer questions about Medline’s draft construction permit. State Senator Melinda Bush convened a town hall meeting on October 2, 2019. EPA attended both public meetings.
- **Meetings with Local Officials:** On November 28, 2018 and May 20, 2019, EPA held in-person meetings with local officials from the Village of Gurnee, the City of Waukegan and Lake County. Congressman Brad Schneider attended the May meeting. Representatives from Senator Durbin and Senator Duckworth’s offices also attended both meetings.
- **Meetings with Community Groups:** On July 8, 2019 and April 2, 2020, EPA met with members of Stop EtO Lake County to answer their questions and listen to their concerns.