

Ethylene oxide: Technical Reviews and Outreach to Potentially Affected Communities

Status Report for Midwest Sterilization in Jackson, MO

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 Midwest Sterilization in Jackson, Mo., 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, Midwest Sterilization, 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.

Background

- **Midwest Sterilization** – Located in Jackson, Cape Girardeau County, MO, the company provides commercial sterilization services. It has been in operation and located at its present location since 1999.

Technical reviews conducted:

- **Conducted site visits** to review operations and verify Clean Air Act compliance. EPA Region 7 staff visited the facility on November 7, 2018 and February 13, 2019. Activities associated with the visit included technical review of plant operations,

verification of stack parameters and locations, and assessment of historic compliance with NESHAP Part 63, Subpart O.

- **Updated dispersion and risk modeling** – EPA Region 7 revised dispersion and risk model to reflect updated and verified modeling parameters (i.e., location of emission points and stack parameters). Revised modeling results were shared with the facility and used as a screening tool to inform impact of additional controls on risk for the community surrounding the facility (October 2018 - December 2019).
- **Facility installed voluntary controls** – Midwest Sterilization voluntarily installed, commissioned and tested additional controls (not required by Clean Air Act regulations) for the sterilization chamber vents (back vents) in October 2019. The additional controls consist of an acid scrubber and associated ancillary equipment. The voluntary installation of controls resulted in ethylene oxide emissions reductions from back-vents by more than 99 percent.

Outreach conducted:

- Region 7 developed a communication strategy for Jackson, MO. The strategy focused on sharing information with the community in a thoughtful and meaningful manner by engaging community leaders and elected officials to understand the work Region 7 has done with Midwest Sterilization. After technical information was shared with public officials, Region 7 engaged community residents and shared educational information on Ethylene Oxide and actions taken by the facility.
- Outreach and engagement were led by EPA Region 7 and took place with the facility, elected officials, state regulators (Missouri DNR and Missouri Department of Health and Senior Services), community leaders and the public.

Details for outreach activities are included below:

• **Facility**

- EPA Region 7 met with Midwest Sterilization facility representatives to gain understanding of facility operations, verify emissions, physical parameters, location of emission points and historical compliance with NESHAP regulations (Part 63, Subpart O).
- **Venue:** In-person site visits, meetings and teleconferences.
- **Event_Dates:**

Year	Date
2018	11/7, 12/11
2019	2/13, 2/14, 2/20, 3/1, 7/24, 10/8

- **Elected officials, community leaders and state regulators**

- EPA Region 7 met with public elected officials, congressional representatives, community leaders and state regulators to share information about the 2014 NATA (published in 2018) and discuss the impact of Midwest Sterilization on risk values published in NATA for Cape Girardeau County. In addition, Region 7 briefed stakeholders on plans for community outreach, communication and engagement.
- **Venue:** In-person meetings, site visit, teleconferences.
- **Event Dates:**

Key: PO = public official; CR = congressional representative; CL = community leaders; SR = state regulators

Year	Date
2018	8/21 (CR), 12/21 (CR)
2019	2/20 (SR), 2/21 (CR), 2/28 (CR), 3/12 (CR), 3/13 (CR), 5/1 (PO), 5/13 (PO, CR), 5/21 (CR), 6/6 (PO, CR, SR), 6/7 (PO), 9/12 (CL, SR), 9/19 (SR, CL), 9/26 (SR, CL), 10/8 (PO, CR), 12/2 (PO, CL)

- **Public (Jackson Community)**

- EPA Region 7 met with the community to share information about the 2014 NATA (published in 2018), educational information about ethylene oxide and to discuss actions taken by Midwest Sterilization to reduce risk for the surrounding community.
- **Venue:** In-person public meetings and availability sessions.
- **Event Dates:**

Year	Date
2019	12/2