



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

September 27, 2018

OFFICE OF
AIR AND RADIATION

Mr. Alec Messina
Director
Illinois Environmental Protection Agency
1021 North Grand Avenue
P.O. Box 19276
Springfield, Illinois 62794

Dear Director Messina:

Thank you for your inquiry about ethylene oxide emissions from the Sterigenics facility in Willowbrook, Illinois. Please know that the Agency shares your concerns and is taking actions to provide certainty to the residents of Willowbrook. In the short term, the U.S. Environmental Protection Agency's (EPA) national Office of Air and Radiation will be collecting, analyzing, and communicating technical information, including recent stack testing results, risk and exposure modeling, and ambient monitoring, to provide updated, comprehensive information to the public. It is important to note that the air concentrations of ethylene oxide are not high enough to cause immediate harm to health for the people in and around Willowbrook.

We are working with state and local air agencies and other EPA offices to take steps to address emissions of ethylene oxide, and are committed to continuing to provide information to the public throughout this process. Initial information, including links to information for the Willowbrook facility, is available on our ethylene oxide website at: <https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide>.

Willowbrook is one of a number of areas that the recently updated National Air Toxics Assessment (NATA) identifies as potentially having an elevated chronic risk from ethylene oxide. NATA is a screening tool to identify areas of the country, pollutants or types of pollution sources that may need to be examined further to better understand risks to public health. Ethylene oxide is used to sterilize equipment and plastic devices that cannot be sterilized by steam, such as medical equipment. The elevated risks from ethylene oxide in the 2014 NATA are driven largely by a toxicity value from the Agency's 2016 IRIS assessment, which estimated that ethylene oxide is 50 to 60 times more potent than previous estimates. This value is used along with the information about air concentrations (exposure), to determine potential risk of cancer that may occur to someone who is continuously exposed to a specific chemical for 24 hours per day over 70 years.

Over the last several months, EPA has provided ethylene oxide-related information from NATA and additional technical work to the community in and around Willowbrook. We know that this information has raised a number of questions and the Agency is working to develop additional technical and communication materials to help the community understand the potential risks.

Based on preliminary NATA results earlier this year, EPA Region 5 contacted Sterigenics about its emissions. The company quickly and voluntarily took steps to reduce emissions using pollution control equipment. The pollution control improvements were completed on July 27, 2018. Sterigenics had estimated that the control equipment would reduce ethylene oxide emissions by over 90 percent. After the pollution controls began operating, a contractor hired by Sterigenics conducted stack testing of ethylene oxide emissions at the facility on September 20 and 21, 2018. U.S. EPA subject matter experts as well as experts from the Illinois EPA were on site to ensure that the tests followed EPA-approved protocols and would provide the right type of information to inform the community about resulting changes in emissions and concentrations of ethylene oxide. This testing will give the Agency the information it needs to provide the most accurate picture of the potential risks to the community, and actions the Agency may need to take.

We expect to receive the results of the testing in the next few days. Early indications from the post-control stack testing suggest that emissions have indeed been significantly reduced. Our experts will work with our colleagues at the Illinois EPA to review the test data as soon as we receive it to quality assure the results and make them available to the public as expeditiously as possible. EPA will use the quality-assured data from the stack tests to conduct additional technical assessments that will help us estimate potential risk for the community. U.S. EPA will work closely with Illinois EPA and Sterigenics as we conduct these assessments.

We have received a number of requests to conduct outdoor air quality monitoring of ethylene oxide in Willowbrook. While there are limitations to the ability of currently available monitoring instruments and techniques to measure ethylene oxide at all levels that may present a long-term public health risk, EPA also intends to supplement this technical work with appropriate ambient monitoring in the near future. It is important to note that data from emissions testing at the stack provides the most accurate information to assist us in determining potential risk.

EPA is also working to further investigate emissions at the other areas NATA indicated may be at higher risk due to ethylene oxide exposure. We will work with state and local agencies and across EPA offices on a two-pronged approach to address ethylene oxide emissions:

1. The Agency has already started to review and update Clean Air Act regulations for facilities that emit ethylene oxide. This work includes standards applicable to chemical plants that use ethylene oxide and, more importantly for Willowbrook, standards for sterilizers that use ethylene oxide.
2. We are gathering additional information on industrial emissions of ethylene oxide from particular facilities, including the Willowbrook facility. This information will help EPA as it evaluates opportunities to reduce ethylene oxide emissions as part of its regulations review. It also will help the Agency determine whether more immediate emission reduction steps are necessary in any particular locations.

Additional information on our work to address ethylene oxide is available at: <https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide>. The 2014 NATA results are available at: <https://www.epa.gov/national-air-toxics-assessment/2014-nata-assessment-results>.

EPA will continue to coordinate closely with state and local air agencies, and across EPA offices, as we continue to work to address ethylene oxide and protect public health across the U.S. Please do not hesitate to contact me or Troy Lyons in the Office of Congressional and Intergovernmental Relations at lyons.troy@epa.gov or 202-564-5200 if you wish to discuss this issue further.

Sincerely,

A handwritten signature in blue ink, appearing to read 'W L Wehrum', with a long horizontal flourish extending to the right.

William L. Wehrum
Assistant Administrator