



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711



OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

November 20, 2018

Ms. Gayle Neal, Village Trustee  
Village of Willowbrook  
835 Midway Drive  
Willowbrook, IL 60527-5549

Dear Ms. Neal,

Thank you for your letter of October 11, about ethylene oxide (EtO) emissions from the Sterigenics facility in Willowbrook, Illinois. This letter follows up on our telephone call of October 30 and includes some information we have learned since that time.

In your letter and our subsequent phone call, you asked several questions. For your convenience, we are providing written answers to your questions below.

- You had requested clarification about inhalation unit risk factors mentioned in news releases and the factor EPA intends to use in follow up evaluations. EPA will use the 2016 EPA inhalation unit risk estimate (URE) of  $5 \times 10^{-3}$  per  $\mu\text{g}/\text{m}^3$  for the follow-up evaluations.
- You asked about the method EPA will use for ambient monitoring, the method detection limit (MDL), how EPA will handle non-detects, and when sampling will begin. Sampling began on November 13. The sampling will use the TO-15 method for Volatile Organic Compounds (VOCs) using stainless steel SUMMA™ canisters. The sampling duration will be 24-hour periods with the change-out times being in mid-morning (e.g., 10 a.m. to 10 a.m.) to facilitate logistics.
  - The Method Detection Limit (MDL) for this method is  $0.082 \mu\text{g}/\text{m}^3$  or 0.045 ppb as reported by EPA's contract laboratory. Samples that do not meet identification acceptance criteria will be reported as ND (non-detect).
  - Concentration data less than the laboratory MDL will be flagged with the qualifier code MD (which means less than MDL). The MDL will be reported with the concentration. Since the data may possibly be used in analyses (e.g., calculating a three-month average concentration), samples reported as non-detect values will be assigned a value of  $\frac{1}{2}$  MDL for averaging purposes. Quality-assured and validated data will be posted to the web.

- You asked how EPA will account for indoor exposures. For the purpose of our risk assessment, we will assume the outdoor and indoor concentrations of ethylene oxide are equal. We make this assumption assessing all gaseous pollutants. We are not planning any indoor monitoring.
- You asked what cancer risk EPA will use as the “acceptable” level of cancer risk. Our primary focus right now is on collecting additional information and assessing the facility’s actions. We will gather additional information with the ambient monitoring and then conduct a risk assessment. The risk assessment will use modeled information to gain a fuller understanding of concentrations in the areas surrounding the facility.
- You asked if EPA will identify an action level, and if so, what that level would be. Right now, EPA is in the process of understanding the emissions from the facility, which we will then use to conduct our risk assessment.
- You also had asked whether EPA would use meteorological models as part of the air sampling protocols? EPA used a dispersion model known as AMS-EPA Regulatory model (AERMOD) to help us select monitoring locations. The inputs into that model included meteorological data from Midway Airport, which we believe most closely represents wind patterns in the area.

As we have additional information to provide, we will make it available on EPA’s website for the Sterigenics Willowbrook facility: <https://www.epa.gov/il/sterigenics-willowbrook-facility>. In the “What’s New” box on this website, there is a link to the Latest Updates page and the Frequent Questions page. Both are updated regularly when new information is available. We also will continue our outreach efforts, as we continue to work to address ethylene oxide.

Please do not hesitate to contact me or Kelly Rimer in my office to discuss any of this information further. I expect to be in Willowbrook for the upcoming public meeting and will look forward to having a chance to speak then.

Sincerely,

A handwritten signature in black ink that reads "Michael Koerber". The signature is written in a cursive, slightly slanted style.

Michael Koerber  
Deputy Director