

Assessing Air Pollution: Ambient Air Monitoring and Emissions Stack Testing

To best understand EPA's ambient air monitoring for the Willowbrook, IL area, it may be helpful to know more about the different kinds of air pollutants, how they are regulated and measured in the United States, and the different kinds of monitoring.

Six Common Pollutants

EPA sets health-based standards known as National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These pollutants, also known as criteria pollutants include ozone, particle pollution, oxides of nitrogen, sulfur dioxide, lead and carbon monoxide. They are found all over the U.S. and can harm your health and the environment, and cause property damage. EPA works closely with state, local and tribal environmental agencies to monitor outdoor air quality for these pollutants – there are over 4,000 monitoring sites that measure for the six common pollutants. *Ethylene oxide is not measured as part of this monitoring network.*

Hazardous (or Toxic) Air Pollutants

Ethylene oxide is a hazardous air pollutant, which is also referred to as a toxic air pollutant. There are 187 different toxic air pollutants regulated by EPA. They are known to cause cancer and other serious health impacts such as reproductive effects or birth defects. EPA does not set ambient standards for these pollutants, but rather develops standards specifically for those industrial facilities that emit them. Because there are many different types of toxics, and because many of these pollutants are location-specific, EPA does not operate a large national network of air toxics monitors. EPA currently has 27 sites across the United States to monitor over 100 air toxic pollutants. The main purpose of this network is to assess trends over time and the effectiveness of emission reduction programs.

Air and Emissions Monitoring

Under EPA's air quality regulatory program, there are two basic types of monitoring with two different functions:

- **Stationary source emissions monitoring:** collects and uses measurement data at individual sources of emissions such as industrial facilities or manufacturing plants. Stack tests are one type of source emissions monitoring.
- **Ambient air quality monitoring:** collects and measures samples of ambient air pollutants to evaluate the status of the atmosphere as compared to clean air standards and historical information;

In the case of Sterigenics, an emissions stack test was conducted on September 20 and 21, 2018, to determine the effectiveness of additional pollution controls. The final stack test report was submitted on October 26, 2018. The report shows that emissions from the stacks at the facility have been significantly reduced since Sterigenics began operating with the additional pollution controls.

In mid-November, U.S. EPA began air monitoring to measure the ambient concentration of ethylene oxide in the commercial and residential areas surrounding the Sterigenics facility. U.S. EPA will collect an ambient air sample over a 24-hour period at several locations on an every-third-day schedule. The data will be posted on U.S. EPA's website within 21 days after sample collection: <https://www.epa.gov/il/sterigenics-willowbrook-facility>.

How can I submit questions?

Email your questions to: eto@epa.gov