



Facts and Frequently Asked Questions about Ethylene Oxide

In 2016, the EPA reassessed its view of the risk associated with ethylene oxide (EO). In 2018, the U.S. EPA issued its latest National Air Toxics Assessment (NATA), which is a screening tool to help identify air emissions that may warrant further study. The NATA report led local officials and community members around Illinois to raise questions and concerns about EO emissions from various facilities, including our Gurnee facility, which consumes EO as part of the production process and emits low levels of EO.

Vantage is working quickly to address concerns about EO emissions and takes this matter very seriously – not only because we have been a longstanding corporate resident of Gurnee, but because many of us also call this community our home for our families and ourselves.

Ethylene Oxide: Commercial Uses & Vantage Controls:

Vantage uses a closed, emission-controlled production process to combine EO with other compounds to make ingredients that are used in a variety of everyday products, including food and baking, personal care and beauty products, and lubricants. To be clear, the EO in this process is consumed and transformed, so the final products do not contain any EO.

Here's how the Vantage process works:

During the production of many household and industrial products, a liquid form of EO is reacted with other raw materials in a controlled, closed process. A very small amount of unreacted EO is subsequently captured and sent to customized emissions-control equipment (known as a scrubber) where the EO is converted to ethylene glycol and sent to a recycling center. Although this process captures most of the EO, a very small amount passes the scrubber. In addition, extremely small amounts of EO can escape as the material moves - through equipment components such as flanges, valves, and pumps. These releases are called fugitive emissions. We use a third-party monitoring service to test fugitive emissions on a monthly basis, which meets the strictest of EPA requirements, and we have a Leak Detection and Repair program which continually improves and reduces these fugitive emissions. Our Gurnee site also employs on-site alarms for EO detection to warn of a potential release or malfunction.

Additional Emissions Reduction Efforts

In response to community concerns, Vantage is taking additional steps that will nearly eliminate its EO emissions, including:

- New Scrubbers: Vantage is installing new “dry” scrubbers that will work in conjunction with our existing “wet” scrubber to dramatically reduce EO emissions from our stack. Vantage has moved aggressively to complete this installation, and expects to bring the new scrubbers online in April.
- Efficiency Testing with EPA: When the new scrubbers are operational, environmental consultants will test our stack emissions to verify the new equipment is functioning properly at maximum efficiency. We will conduct this testing in coordination with the EPA.
- Air Monitoring: Environmental consultants will also conduct ambient air monitoring to further demonstrate these updates are effective and confirm that Vantage’s emissions do not present a meaningful risk to our community. We will conduct this testing in coordination with state and local health and environmental agencies.

How Vantage Measures Its Emissions Controls

Prior to 2017, Vantage reported its emissions based on EPA-approved modeling that used default emission values. This method — based on modeling assumptions rather than actual measurements — substantially overestimated emissions. In 2017, Vantage implemented an EPA-approved protocol for measuring emissions based on actual measurements. We have submitted updated, actual emissions values for 2010-2016 to the US/Illinois EPA review. These revised values show that emissions were up to 90% lower than previously reported in some years. And with the added controls we’re installing by this spring, those figures will drop even lower, nearly eliminating stack emissions at our Gurnee facility.

We will continue cooperating with local, state and federal authorities and intend to remain an active partner and trusted community member as this process proceeds.

Frequently Asked Questions

Q. What is ethylene oxide and what are its uses?

A. EO is a gas that has two main commercial uses: 1) to make other chemicals that produce a range of common consumer and industrial products, and 2) to sterilize devices, such as specialty medical and dental equipment. At Vantage, we use EO to make ingredients for use in a variety of industries, including food and baking ingredients, personal care and beauty products, textile manufacturing, lubricants and many more. We do this in a closed, controlled process that uses state-of-the-art technology to limit EO emissions.

Q: What are the testing and emission controls currently in place at Vantage?

A: The Gurnee site uses emission control equipment specifically designed to capture EO and minimize any emissions that may be released. The current (wet) scrubber captures the EO in the air before it is routed to the stack, and converts it into a usable glycol liquid which is recovered and sent to a recycling center. Although this scrubber captures and converts most of the residual EO, we are installing an additional (dry) scrubber that captures virtually all of the remaining EO.

Installation of the new dry scrubbers will reduce our current—and already low— EO stack emissions by over 99 percent. We will test the performance of the scrubber as soon as installation is complete to confirm that it is operating at maximum efficiency.

Our Gurnee site also employs on-site alarms for EO detection to warn of a potential release or malfunction, and we use a third-party monitoring service to test-fugitive-emissions on a monthly basis, which meets the strictest of EPA requirements.

Q: What information have you shared publicly about your facility's emissions?

A: Our emissions data, which we regularly report to regulators, is publicly available online through the [EPA's website](#). We are actively cooperating with regulatory agencies to provide information about our operations and controls, and we want to be an active partner and trusted community member, which is why we are committed to addressing any questions communities and area organizations may have about the safety of our operations and what steps we're taking to further reduce our EO emissions. We submitted revised emissions values to the U.S. / Illinois EPA based on actual testing data—instead of historical data based on theoretical models—which show reductions by as much as 90 percent in some years. US EPA previously said these new numbers would be updated in their system in March, but that was delayed due to the government shutdown earlier this year.

Q: Has Vantage tested or will the company be testing the air surrounding the Gurnee facility since the new EPA map was released?

A: We are working with the Village of Gurnee, Lake County and EPA, preparing to conduct ambient air monitoring around the facility in late spring/early summer.

Q: When will those results be available for review?

A: Vantage will provide information on the results after the monitoring program is completed.

Q. Why have the ethylene oxide risk values in the EPA's National Air Toxics Assessment (NATA) changed from the previous NATA?

A: In 2016, the EPA issued a new, more conservative estimation of risks associated with EO. As a result of this update, the latest NATA issued in 2018 estimates greater risks from ethylene oxide than it did in previous NATA reports. This does not mean there is more EO in the air; it reflects the EPA's evolving views about the risk from long-term exposure to EO.