

This is a podcast overview of **Management Alert: Prompt Action Needed to Inform Residents Living Near Ethylene Oxide-Emitting Facilities About Health Concerns and Actions to Address Those Concerns**, Report No. 20-N-0128 March 31, 2020

Libby: Hello, and thank you for tuning into this podcast, hosted by the U.S. Environmental Protection Agency's Office of Inspector General, or OIG. Joining me today is Renee McGhee-Lenart, lead program analyst with the Environmental Protection Agency's Office of Inspector General.

Renee: Thank you for having me today.

Libby: Your team recently released a report discussing how the EPA has communicated risk to residents living near 25 ethylene oxide-emitting facilities it has prioritized. First off, what is ethylene oxide?

Renee: Ethylene oxide is a flammable and colorless gas used to make other chemicals to manufacture a variety of products including antifreeze, textiles, plastics, detergents and adhesives. It is also used to sterilize medical equipment or other devices that cannot be sterilized by steam. However, inhaling ethylene oxide presents a health risk because it can contribute to cancer risks in people who are exposed to it over an extended period of time.

Libby: And what kind of facilities typically release it?

Renee: It is usually emitted from chemical manufacturing facilities and medical equipment sterilization facilities.

Libby: What are some of the health impacts from being exposed to ethylene oxide?

Renee: Breathing air containing ethylene oxide over many years increases the risk of lymphoid cancers in males and females and breast cancer in females. The risk of developing cancer is greater for children than for adults because it can damage their DNA.

Libby: How and when did the EPA become aware of this issue?

Renee: Ethylene oxide was characterized as a hazardous air pollutant in the Clean Air Act, and the EPA conducted a health assessment of ethylene oxide in 1985. However, the EPA completed a revised toxicity assessment of ethylene oxide in December 2016 and concluded that ethylene oxide was 30 times more carcinogenic to adults than previously thought. As a result of its 2016 assessment, the EPA revised the cancer description for ethylene oxide from "probably carcinogenic to humans" to "carcinogenic to humans."

Libby: How did the revised toxicity assessment for ethylene oxide impact the EPA's understanding of public health risks?

Renee: Using the revised toxicity data for ethylene oxide, the agency's 2014 National Air Toxics Assessment, or NATA, identified ethylene oxide as a new and significant driver of cancer risk in 17 metropolitan areas. The agency periodically conducts the NATA to assess the public health risk from exposure to air toxics, such as ethylene oxide. The 2014 NATA was released in 2018 but is based on emission inventories reported for calendar year 2014.

Libby: The OIG report states that the EPA has prioritized 25 ethylene oxide-emitting facilities that contribute to estimated cancer risks equal to or greater than 100 in 1 million. Is that concerning?

Renee: According to the EPA's guidelines for establishing air toxics emissions standards, the EPA generally considers a risk of 100 in 1 million or above to not be protective of public health and requires additional action to reduce that risk.

Libby: Where are these facilities located?

Renee: They are spread throughout states in EPA Regions 2 to 8, which include almost the whole country except for the New England region, the Pacific Northwest, the states in the southwest, and Hawaii and Alaska. It does include Puerto Rico, but not the other U.S. territories.

Libby: What is the EPA doing to keep residents in the communities safe and informed on this issue?

Renee: The EPA has developed a two-pronged approach to address ethylene oxide emissions, which includes, 1, reviewing existing regulations, and, 2, gathering information to inform regulatory efforts and determine whether more immediate reduction steps are necessary in any particular locations. The EPA's website has information regarding its activities to address ethylene oxide. Some EPA regional staff said that they have informed states, elected officials, and community advocates about the ethylene oxide facilities contributing to elevated estimated cancer risks in their states. Agency and state and local officials have met with residents living near nine of the 25 high-priority facilities to provide information and answer questions that residents had regarding ethylene oxide emissions in their communities.

Libby: What about the rest of the communities?

Renee: The EPA has not conducted outreach with communities living near 16 of the high-priority facilities. However, Region 2 plans to meet with residents in Puerto Rico living near one of the high-priority facilities to inform them of health risks in March of 2020, and Region 3 has a plan in place that includes a variety of outreach efforts to inform residents living near ethylene oxide-emitting facilities in that region. However, there are no plans in place to meet with communities near 11 high-priority facilities, most of which are in Texas and Louisiana.

Libby: What does the OIG think the EPA should do?

Renee: The agency should improve and continue to implement ongoing risk communication efforts by promptly providing residents in all communities near the 25 ethylene oxide-emitting facilities identified as high priority with a forum for an interactive exchange of information with the EPA and states regarding health concerns related to ethylene oxide exposure.

Libby: What are the best ways to communicate the health risks to the residents of these communities?

Renee: Interactive exchanges of information are the best way for residents to fully understand the health concerns related to ethylene oxide exposure and the actions that the EPA is taking to address those concerns. For example, public meetings, webinars, workshops, and door-to-door communication are effective methods of outreach. It is important that the EPA actively participate by making presentations and answering questions along with state officials to ensure the messaging is consistent.

Libby: Where can people go to see if they live in a community with high levels of ethylene oxide and get more information on the chemical itself and its health impacts?

Renee: People can visit the EPA's NATA Map website <https://www.epa.gov/national-air-toxics-assessment/2014-nata-map> to find out whether they live in a community with high estimated cancer risks from air toxics emissions, including ethylene oxide. The website allows people to check specific areas and the facilities that reported air toxics emissions in 2014. More information, including tips and a user guide, can be found on the website. Background information on ethylene oxide, including its health impacts, and frequently asked questions on the chemical can be found at <https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide>.

Libby: Thank you so much for your time. The report is now available at www.epa.gov/oig.