

Ethylene oxide: Technical Reviews and Outreach to Potentially Affected Communities

Status Report -- Croda, New Castle, Delaware

As EPA pursues its mission to protect public health and the environment, addressing ethylene oxide (EtO) remains a major priority for the Agency. EPA's National Air Toxics Assessment (NATA), released in August 2018, identified a number of areas (census tracts) with potentially elevated risk from continuous exposure, over 70 years, to EtO in the outdoor air. NATA estimated these risks based on EtO emissions from 2014, which were the most recently available at the time.

NATA is a screening-level analysis that is intended to identify pollutants or areas for closer examination. Because of this, additional work is needed to better understand emissions in areas that NATA identified as potentially having elevated risk. EPA has been supporting its state air agency partners as they conduct that work and identify opportunities for reducing EtO emissions from individual facilities, while the Agency reviews its national regulations for industrial facilities that emit EtO. Actual risks today may be higher or lower than NATA estimated due to several factors, including updated or more refined facility emissions information, or recent facility changes such as the installation of pollution controls.

The information below describes the technical analyses conducted for Croda as part of the follow-up work conducted since NATA was issued in August 2018. It also summarizes outreach to nearby communities about the NATA results. EPA is providing this information, in part, in response to the EPA Office of Inspector General's March 31, 2020, Management Alert which called on EPA to provide information to the 25 communities that NATA identified as potentially having the highest risk from EtO emissions.

Technical reviews conducted:

The Delaware Department of Natural Resources and Environmental Control (DNREC) has been the lead in reducing emissions at Croda. EPA has provided technical assistance as requested.

- Provided 2014 NATA and EtO findings for the Mid-Atlantic Regional Air Management Association's (MARAMA) Air Toxics conference in August 2018.
- Presented 2014 NATA and EtO findings at EPA Region 3's (R3) annual State Air Directors meeting in September 2018.
- Shared remodeled risk results using 2017 emissions with DNREC on July 2019.
- Coordinated an EPA technical call on ambient monitoring of EtO conducted by Office of Air Quality Planning and Standards (OAQPS) with Pennsylvania, Delaware and West Virginia -- our states with high risk facilities, in July 2019.
- Coordinated EPA webinar on technical methods used for EtO analysis for state and local agencies and contract laboratories in August 2019.

Outreach and Actions to date:

- An accidental release of EtO occurred in November 2018.

- DNREC held its first public meeting in December 2018 to discuss the incident with the community.
- DNREC reached a settlement with Croda in March 2019.
- DNREC held a second public meeting in August 2019 to provide updates with the community.
- A joint inspection between DNREC and R3 air enforcement was conducted in January 2020.
- DNREC announce the resumption of EtO activities at Croda in November 2020.
- Croda was required to conduct a stack test for its scrubber, and DNREC observed the test on Sept.17, 2020.
- Croda failed the required stack test, and a Notice of Violation (NOV) was issued on Nov. 11, 2020.
- DNREC held an informational meeting for the community to discuss the NOV on Nov. 19, 2020. R3's Air and Radiation Division (ARD) was invited to discuss the impact of EtO and public health. Croda representative was also present to address the community concerns regarding the NOV. R3 is committed to hold discussions on how best to support the community and advise on environmental justice issues.
- DNREC announced that Croda has restarted operations the first week of January 2021 in preparation to conduct a second required stack test during the second week of January 2021.