

GEORGIA ETO UPDATE – April 2022

There have been several new updates that are important to the accuracy of reporting on ethylene oxide (EtO). The latest actions and findings include:

1. **The U.S. EPA release of its new AirToxScreen Mapping Tool to replace the National Air Toxics Assessment (NATA). The release is called the 2017 AirToxScreen**

Significantly, the newly released 2017 AirToxScreen (NATA) – even using five-year old data prior to facility improvements and based on modeling versus the actual Georgia EPD EtO emissions air monitoring – found that the EtO emissions from the BD facility in Covington are well within the ranges of acceptable risks used by both the U.S. EPA and the Georgia EPD.

2. **A Georgia EPD letter to the U.S. EPA expressing concerns with the 2017 AirToxScreen**

The Georgia EPD noted to the EPA that the EtO risks identified in the 2017 AirToxScreen have been addressed and expressed concern that risk estimates for 2017 are being released in 2022. Additionally, Georgia EPD notes that the EPA does not address background concentrations of EtO that have been provided to EPA's Air Quality System (AQS) AirToxScreen, (which EPA has required National Air Toxics Trends Sites and Urban Air Toxics Monitoring Program Sites to provide since January 2020).

3. **The International Journal of Environmental Research and Public Health release of an independent, peer reviewed study, "Monitored and Modeled Ambient Air Concentrations of Ethylene Oxide: Contextualizing Health Risk for Potentially Exposed Populations in Georgia"**

The authors conclude that the EtO detected in ambient air around the BD facility is typical of background air concentrations in Georgia and the United States.

4. **Most Recent Georgia EPD Air Monitoring Update**

As of April 2022, when the air monitoring reports were last updated, average concentrations of EtO in Covington's ambient air samples continue to be consistent with typical background levels found by the U.S. EPA in its nationwide study and are generally lower than the concentrations observed at EPD's background monitoring station in South DeKalb as well as those in the rural General Coffee State Park.

Detailed Factual Findings and Information on Above Topics

1. **U.S. EPA Releases its new AirToxScreen and 2017 National Air Toxics Assessment**

On March 3, the US EPA released a new air quality screening tool, called the "AirToxScreen" available at <https://www.epa.gov/AirToxScreen>, which provides annual information to assist agencies in identifying which substances, emission sources and places they may wish to study further to better understand any possible risks to public health.

The EPA notes on its website that the AirToxScreen is a **computer screening model and that it "should not be used to pinpoint specific risk values in small areas such as a census tract,"** and "should not be used to characterize or compare risks at local levels (such as between neighborhoods)."

Under the umbrella of this new AirToxScreen program, EPA also released the results of the 2017 National Air Toxics Assessment, known as “NATA,” on its new website. As is the case for prior versions of NATA, the 2017 NATA is not based on any actual ambient air testing around any facility in the United States and does not identify areas with any actual known adverse health effects. The latest release of the NATA is based on facility-reported Toxic Release Inventory (TRI) data from 2017, although more recent TRI data is available.

2. [Georgia EPD Letter](#): Comments and Recommendations on EPA’s AirToxScreen

On March 1, 2022, on behalf of the Georgia Environmental Protection Division, Karen Hays, Chief, Air Protection Branch, provided comments to the U.S. EPA on the new AirToxProgram (see attached). In its comments, the Georgia EPD expressed four main EtO concerns with the 2017 AirToxScreen and EPA’s process for releasing it:

- The Georgia EPD noted the 2017 EtO risks identified in the AirToxScreen already had been addressed by the installation of additional air quality controls at commercial sterilizers in Georgia using EtO, including at the BD Covington and Madison facilities.
- The Georgia EPD expressed concern over EPA issuing the 2017 NATA results in 2022 when EPD had been addressing ETO emissions and additional controls since 2018.
- The Georgia EPD urged EPA to share the source of the emissions data, EPA’s calculation methodology, and modeling assumptions with the states, which were not contained in the AirToxScreen.
- The Georgia EPD requested that EPA explain why it did not include background concentrations of EtO as a key consideration in its AirToxScreen risk estimates.

Georgia EPD Extensive Ambient Air Testing for EtO in the Covington Area

As noted above, both the AirToxScreen and the NATA are air quality screening tools. Since the Georgia EPD’s request in 2019 to follow up on the earlier NATA report that relied on 2014 data, more than 2,000 EtO ambient air samples have been collected throughout the Covington and the greater Atlanta areas. Ambient air samples have been collected in multiple residential neighborhoods, in city areas and at a school site, where EtO samples many times were collected every other day or every three days.

While the NATA can provide helpful initial information, the extensive real-time air monitoring collected over the past two years confirms the average EtO concentration in ambient air in Covington is the same or lower than all other monitored background locations in Georgia and background locations across the US, including in areas with no known sources of EtO. (See graphs below that show the level of EtO in the ambient air around Covington, Georgia compared to other state and nationwide locations)

Additionally, as noted by the Georgia EPD in its comments to EPA, since the 2022 AirToxScreen is based on 2017 reported data, it does not reflect actual operating conditions at the Covington and Madison facilities today. For example, the 2017 NATA in the AirToxScreen does not reflect the significant additional air quality control equipment and monitoring upgrades at the Covington and Madison facilities completed in 2020, which are now in operation today. These extensive upgrades further reduce emissions from both facilities.

Significantly, the 2017 NATA – even using five-year old data prior to facility improvements and based on modeling versus the actual Georgia EPD EtO emissions air monitoring – found that the

EtO emissions from the BD facilities are well within the ranges of acceptable risks used by both the US EPA and the Georgia EPD.

3. An Independent Peer Reviewed Study Concur

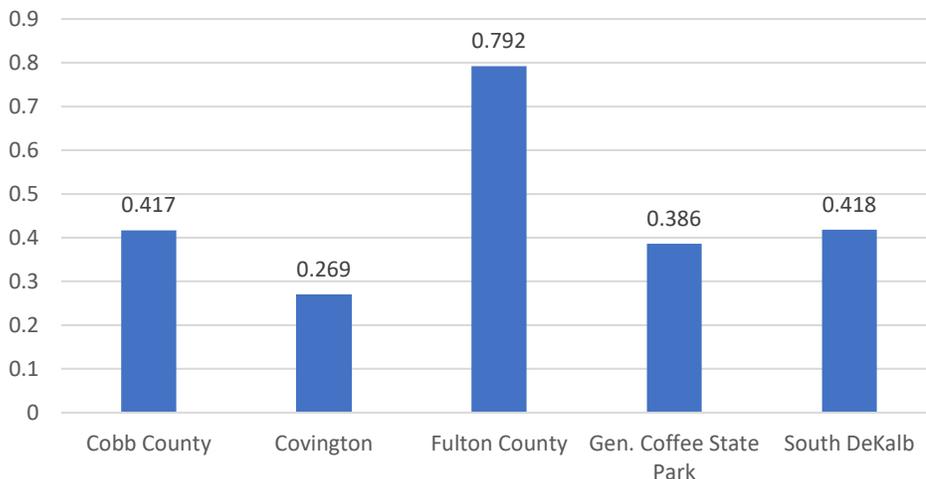
The *International Journal of Environmental Research and Public Health* released the independent, peer reviewed study, [“Monitored and Modeled Ambient Air Concentrations of Ethylene Oxide: Contextualizing Health Risk for Potentially Exposed Populations in Georgia,”](#) March 2022. The detailed assessment compares mean concentrations for monitoring sites to mean background concentrations to assess whether emissions contribute significantly to environmental concentrations. The authors conclude that the EtO detected in ambient air around the BD facility is typical of background air concentrations in Georgia and the United States.

4. Most Recent Air Monitoring Update

As of April 2022, when the air monitoring reports were last updated, average concentrations of EtO in Covington’s ambient air samples were 0.269 $\mu\text{g}/\text{m}^3$. Results continue to be consistent with typical background levels found by the U.S. EPA in its nationwide study (between 0.2 $\mu\text{g}/\text{m}^3$ to 0.4 $\mu\text{g}/\text{m}^3$). (NOTE: South DeKalb results were updated in April, but all other locations were last updated in December 2021 or January 2022.)

In addition, the Georgia EPD has air monitoring stations in other parts of the region. The data show that average concentrations of EtO in ambient air samples in Covington, Ga. are generally lower than the concentrations observed at EPD’s background monitoring station in South DeKalb as well as those in the rural General Coffee State Park. The data also show that average concentrations across the greater Atlanta area are about the same in areas where EtO sterilization facilities operate and areas where they do not. Air monitoring results are regularly published on this website as well as the [GA EPD site](#).

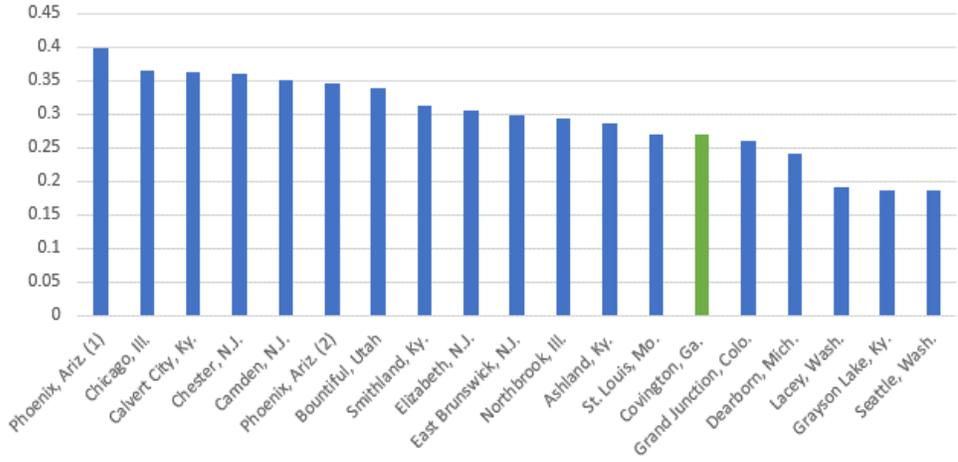
Average EtO Concentrations ($\mu\text{g}/\text{m}^3$) – Georgia



*The Covington, Ga. average is the average of both EPD monitoring data from areas near BD’s sterilization facility and data from a third-party engineering company performing air monitoring around BD’s GDC in Covington, as required by EPD. All raw data available at <https://epd.georgia.gov/ethylene-oxide-information>.

Average EtO Concentrations – United States

EtO concentrations measured in ambient air samples in Covington by the Georgia EPD and BD are consistent with the average background concentrations the EPA found nationwide in urban and rural areas that are not near sterilization facilities.



*Green: The Covington, Ga. average is the average of both EPD monitoring data from areas near BD's sterilization facility and data from a third-party engineering company performing air monitoring around BD's GDC in Covington, as required by EPD.