



Calvert City, KY Air Monitoring Study

Calvert City, Marshall County, Kentucky

Fact Sheet | January 2024

Overview

The U.S. Environmental Protection Agency and Kentucky Department of Environmental Protection's Division for Air Quality (KDAQ) are working together to protect public health in Calvert City, Kentucky. The EPA and KDAQ completed a monitoring study for toxic air pollution near the Calvert City Industrial Complex and found elevated levels of volatile organic compounds (VOCs), including ethylene dichloride or "EDC."

Exposure to EDC in the air over long periods of time can pose an increased risk of cancer and other negative health effects to the liver and kidneys. The EPA and KDAQ are taking steps locally and nationally to limit EDC emissions, reduce exposure and protect people's health.

This fact sheet explains VOCs, including sources and risk of EDC, along with study results and next steps. A public meeting is planned on February 13, 2024 (see box, above right) for residents to learn more, while specific health-related resources and contacts are presented in the box below.

Detailed documentation on this study, including the risk assessment document, is posted online at: www.epa.gov/ky/calvert-city-kentucky-air-monitoring.

What are VOCs

Volatile organic compounds or "VOCs" are a group of many chemicals that evaporate easily and often have an odor. VOCs are used in industrial processes and in common household products. Long-term exposure to certain VOCs can cause cancer and other harmful health effects.

EPA and KDAQ are hosting a public meeting to provide information about the Calvert City air toxics monitoring study and risk assessment. Participants can join in-person or virtually.

February 13th, at 6:00 pm
Calvert City Library
949 5th Ave SE
Calvert City, KY 42029

To register for the Zoom meeting, please visit

www.epa.gov/ky/calvert-city-kentucky-air-monitoring



Air monitoring site near the Calvert City Industrial Complex

Please consult your doctor for individual health questions. The Agency for Toxic Substances and Disease Registry (ATSDR) has information on ethylene dichloride exposure available to help you and your doctor understand how it may affect your health. For more information, see: www.atsdr.cdc.gov/toxfaqs/tfacts38.pdf.

You can also contact Leann Bing at ATSDR: (404) 562-1784 or KBing@cdc.gov.

People who work with ethylene dichloride may also contact the Occupational Safety and Health Administration: (502) 564-3070 or www.osha.gov/contactus/bystate/KY/areaoffice.

Sources and risks of ethylene dichloride

Ethylene dichloride or “EDC” is a man-made VOC that is not found naturally in the environment. It is primarily used in industrial processes, such as in the production of vinyl chloride, polyvinyl chloride or “PVC”, solvents and other chemicals. The levels of EDC identified at the Calvert City air monitoring sites are estimated to result in elevated cancer risk over a 70-year lifetime of continuous exposure.

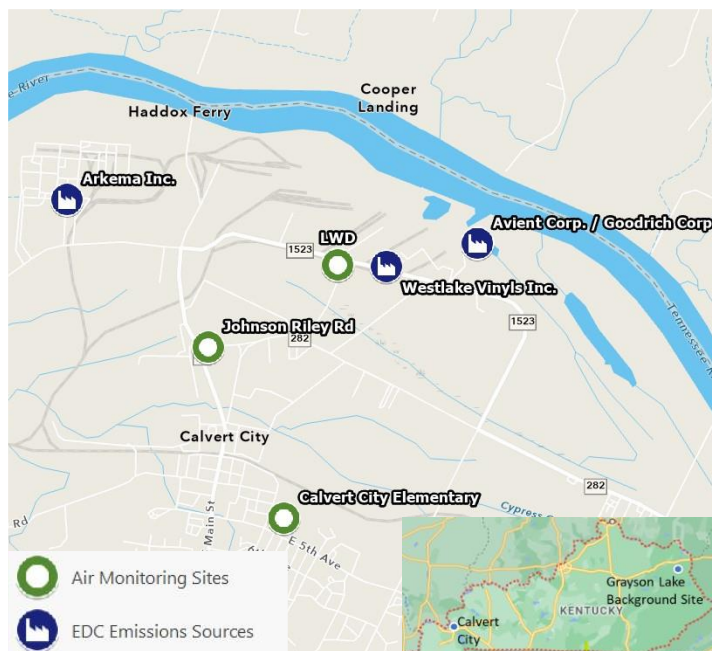
According to the EPA’s 2020 National Emissions Inventory (NEI) there are three facilities in the Marshall County, KY, area that emitted EDC in 2020 (the most recent inventory year, which also coincides with the air monitoring study). The majority (96%) of reported EDC emissions in Calvert City are from the Westlake Vinyls, Inc. facility, which is the largest single source of EDC air emissions in the United States according to the 2020 NEI.

Study results

VOCs were measured between October 2020 and December 2021. Using the information gathered during the study, the EPA estimated both the excess cancer risks and the non-cancer hazards associated with the VOCs measured.

The EPA estimated these risks at each of three Calvert City monitoring sites and a background site. The VOCs measured were below levels that would be expected to result in short-term health problems.

The highest lifetime cancer risk was found at the LWD site, which is close to VOC sources at the industrial complex and lower risks were found at the two other sites. The levels at all three sites were above the target cancer risk level used by KDAQ to determine if air emissions reductions are needed.



Next steps

The EPA is supporting the KDAQ in developing short-and long-term strategies to reduce EDC exposure in Calvert City, including working with Westlake Vinyls and potentially other facilities to explore voluntary actions to reduce EDC emissions. The EPA has also proposed revisions to air emissions rules for the Synthetic Organic Chemical Manufacturing Industry¹. Westlake Vinyls and other similar chemical plants are subject to these rules.

The KDAQ is continuing air monitoring for EDC and other VOCs at the three Calvert City sites and will work with the EPA to assess any changes or trends in the air pollution concentrations.

FOR MORE INFORMATION

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Study report and more information available at:

epa.gov/ky/calvert-city-kentucky-air-monitoring

¹ See: www.epa.gov/stationary-sources-air-pollution/synthetic-organic-chemical-manufacturing-industry-organic-national