



Wylam Neighborhood Air Monitoring Study

Birmingham, Jefferson County, Alabama

Fact Sheet | February 23, 2022

Overview

The U.S. Environmental Protection Agency (EPA) and the Jefferson County Department of Health (JCDH) are working together to protect public health in Birmingham, Alabama. EPA and JCDH have completed a special air monitoring study in the Wylam neighborhood of Birmingham that focused on metals, including chromium. The air monitoring results from the study were used to calculate potential risks to local residents.

The air monitoring study found that the level of hexavalent chromium, a specific form of chromium that can cause cancer, is at the top of, but within the range of risks (one-in a million to one-hundred in one million) that EPA uses to protect people from toxic air pollutants. No other metals were found to be significantly elevated. Although there are a number of potential sources of chromium in the area, the key source(s) of, and their contribution to, the measured hexavalent chromium concentrations at the Wylam monitor are not known with certainty.

We are taking steps to protect public health. JCDH will resume sampling for hexavalent chromium in air at the Wylam monitor site to determine if hexavalent chromium levels in the surrounding neighborhood's air have changed and, if any remain elevated, what the key contributing sources may be and options for reducing emissions.

EPA understands you might have questions about possible health impacts, and a list of resources and contacts is presented below to help you address your concerns. In addition, this fact sheet explains why the study was conducted, the results, and next steps. The study report, including the monitoring results, is posted online at: www.epa.gov/al. **EPA is hosting a Virtual Public meeting on Thursday, March 10, 2022, at 6:00pm CST, to discuss results and provide information from the risk assessment conducted in the Wylam Community. Please go to www.epa.gov/al to register for the meeting on Thursday, March 10, 2022, at the 6:00 pm CST.**



Air monitoring site in Wylam neighborhood of Birmingham.

If You Have Health Questions

If you have health questions, please consult your doctor. The Agency for Toxic Substances and Disease Registry (ATSDR) has information on hexavalent chromium exposure available to help you and your doctor understand how you can be exposed to hexavalent chromium and how it may affect your health. For more information, see:

www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=17

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

People who work with chromium may also contact the Occupational Safety and Health Administration: (205) 731-1534 or www.osha.gov/contactus/bystate/AL/areaoffice

Background

JCDH operates an air pollution monitoring site in the Wylam community. During a review of 2000-2016 data from the Wylam site, the EPA noted elevated concentrations of chromium.

Two types of chromium are commonly found in the environment: (1) trivalent chromium, which at low levels is an essential nutrient; and (2) hexavalent chromium, which is generally produced by industrial processes. Long-term exposure to hexavalent chromium in air is associated with an increased risk of lung cancer. Since the Wylam monitor only provides data on total chromium, a special air monitoring study was carried out between April 2018 and April 2019 to evaluate whether and how much hexavalent chromium was present.

Sources and Risks of Hexavalent Chromium

Hexavalent chromium is used in many industrial processes, such as pigments, wood preservation, leather tanning, and metal finishing. When exposed to hexavalent chromium in the air over long periods of time, it can pose an increased risk of lung cancer and other negative health effects.

According to EPA's Toxic Release Inventory (TRI), there were a number of facilities in the Jefferson County, AL, area that worked with metals, including chromium, during the years 2018 and 2019 (the years that overlap the special Wylam study). In addition to large facilities that reported to TRI such as the US Steel facility in Fairfield, there are other smaller sources that work with metals as well, such as Alabama Hard Surfacing in Wylam (which is in the process of upgrading their air pollution control equipment). This study did not attempt to identify all the potential sources of, or contributions to, metals concentrations measured during the special study.

Study Findings

Total and hexavalent chromium and several other metals were measured between April 2018 and April 2019 as part of the special air monitoring study. One of the findings of the study was that hexavalent chromium made up on average about 9% of the total chromium measured. Using the information gathered during the study, EPA estimated both the excess cancer risks and the non-cancer hazards associated with the metals measured.

EPA estimated that, for every 100 people in one million exposed to hexavalent chromium at the levels measured at the Wylam monitor, up to 1 person might develop cancer over a lifetime of exposure (100 in one million). Since measurements were only made at the Wylam monitoring site, it is unknown what the risks are in other parts of the neighborhood, but they could be higher. In general, EPA considers excess cancer risks resulting from hazardous air pollutants such as hexavalent chromium to be of concern if they are above 100 in one million. Other metals measured in the study were below the 100 in one million level. None of the metals measured were at levels that would be expected to result in non-cancer health problems.

Actions and Next Steps

Monitoring for hexavalent chromium and other metals will be reestablished at the Wylam monitoring site to determine if any metals concentrations are currently elevated and, if any remain elevated, what the key contributing sources may be and options for reducing emissions.

FOR MORE INFORMATION

**EPA Air Analysis and
Support Branch Chief**

Todd Rinck

(404) 562-9062

Rinck.todd@epa.gov

Study report and more information are posted at:

www.epa.gov/al