



Randy E. Hayman, Water Commissioner

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Philadelphia Water Department Statement on 1,4-dioxane

The Philadelphia Water Department (PWD) proudly provides safe, high-quality drinking water that meets all state and federal drinking water standards to 1.6 million customers.

Philadelphia's proactive approach involves monitoring our water quality at multiple steps, from source to tap. That means working with regional utilities and regulatory agencies to address potential upstream contamination risks impacting our source water. Additionally, PWD constantly monitors drinking water throughout the treatment process, from the water supply to the distribution system.

Our staff also closely monitors national public health discussions regarding different kinds of chemicals that may appear in water supplies. In the water industry, these are often referred to as emerging contaminants.

Experts with the PWD Watershed Protection Program and Bureau of Laboratory Services gather relevant data and information to better understand the occurrence and potential risks posed by such chemicals as part of our commitment to protecting public health.

As part of this work, we first began monitoring for the compound **1,4-dioxane**, a chemical widely used in manufacturing and industrial processes that is found throughout the United States, nearly a decade ago.

The compound has so far only been detected in minute amounts, measured in parts per billion (PPB). These low-level detections are well below the federal health advisory level for drinking water and are not anticipated to pose any acute public health risk.

For context, one PPB is the equivalent of one second per 32 years, one pinch of salt on 20,000 pounds of potato chips, or the width of one human hair in 68 miles.

There are no federal or state drinking water regulations for 1,4-dioxane applicable to Philadelphia:

- There is currently no federal limit proposed by the U.S. Environmental Protection Agency (EPA) for 1,4-dioxane levels in drinking water.
- The EPA has a nonbinding lifetime health advisory level for 1,4-dioxane in drinking water of 200 PPB.
- The Pennsylvania Department of Environmental Protection, which regulates public water providers in the Commonwealth, also has not set limits for 1,4-dioxane in drinking water.

- The World Health Organization has a [suggested threshold of 50 PPB](#).

As with all chemicals deemed emerging contaminants, the science regarding 1,4-dioxane is still evolving. We are committed to the scientific method and making decisions based on sound scientific data. Our scientists have proactively monitored for this contaminant in the water supply and plan to continue surveillance monitoring.

Watershed Collaboration on 1,4-dioxane Response

After being alerted about 1,4-dioxane detections by our utility partner, New Jersey American Water, we proceeded to test source water proactively and voluntarily in an abundance of caution. We began regularly monitoring 1,4-dioxane levels twice a month in our source waters in November 2020.

These results will be vetted, analyzed, and interpreted by PWD scientists and water quality experts to ensure adherence to a scientifically sound process. This process includes repeatable observations that are made at different times of the year and under different weather and river conditions.

We are currently collaborating with neighboring utilities, including NJ American and regulatory agencies such as the Delaware River Basin Commission, an interagency regional task force, to share information and assess risk in our shared watershed.

The regional task force is working to track down any potential sources of this compound, determine what levels may be present in the watershed, and provide accurate communications around the issue.

1,4-dioxane Background

1,4-dioxane is an industrial chemical widely used as a stabilizer in chlorinated solvents, paint strippers, greases and waxes. It is also a byproduct used in dyes, antifreezes, aircraft de-icing fluids and some consumer products such as shampoos, deodorants, and cosmetics. Other sources include the manufacturing byproduct of pharmaceuticals and PET plastic.

PWD first tested Philadelphia drinking water for 1,4-dioxane as part of a national emerging contaminant study implemented by the Environmental Protection Agency in 2013-2015 (Unregulated Contaminant Monitoring Rule 3).

Sampling conducted in 2013-2015 did not indicate any public health concern for Philadelphia's drinking water. Results from this monitoring effort are publicly available on the EPA's website: [UCMR 3 \(2013-2015\) Occurrence Data](#)

PWD continues to track the latest science on 1,4-dioxane and any potential impact on drinking water quality. We expect our monitoring strategy to evolve as we learn more from our research and collaborations with other water utilities and regulatory entities.