

ANNUAL WATER QUALITY REPORT

Reporting Year 2024



Presented By
City of Middletown



Our Commitment

We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2024. Included are details about your drinking water, what it contains, and how it compares to standards set by regulatory agencies. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. Our commitment is to provide you with a safe and dependable supply of water.

Source Water Description

Your drinking water comes from the Great Miami Buried Valley Aquifer. Groundwater production wells produce up to 20 million gallons of drinking water per day. The untreated well water is pumped to the water treatment plant, where it is softened using lime, disinfected with chlorine, and then filtered using dual-media water filters. Fluoride is added to the water as a measure to prevent tooth decay. Middletown maintains established water supply connections with Warren County, Southwest Regional Water District, and the City of Monroe. These emergency connections are available to be used in extraordinary conditions such as drought, source failure, line breaks, fires, and other periods of unusually high water demand.



Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health-care providers. U.S. Environmental Protection Agency (U.S. EPA)/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or epa.gov/safewater.



Think Before You Flush!

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of our waterways by disposing responsibly. To find a convenient drop-off location near you, please visit <https://bit.ly/3IeRyXy>.

Public Meetings

Public participation and comments are encouraged at regular meetings of the city council, which are held the first and third Tuesday of the month at 5:30 p.m. in the City Building, lower-level Council Chambers. Please visit cityofmiddletown.org or call (513) 425-7864 for more information.

Source Water Protection

Protecting our water source is one important way the City of Middletown limits contaminants in our drinking water. The Ohio Environmental Protection Agency completed a study of the City of Middletown's source of drinking water to determine its susceptibility. According to this study, the aquifer (water-rich zone) that supplies water to the City of Middletown has a high susceptibility to contamination. This determination is based on the following:

- Lack of a protective layer of clay overlying the aquifer
- Shallow depth (less than 15 feet below ground surface) of the aquifer
- The presence of significant potential contaminant sources in the protection area
- Past detection of human-made contaminants in Middletown's aquifer

The risk of future contamination is minimized by implementing appropriate protective measures. The City of Middletown has developed and implemented a comprehensive Wellhead/Source Water Protection Plan to help prevent potential contamination from entering the aquifer. The protection plan contains an educational component, source control strategies, a contingency and emergency response plan, and groundwater monitoring strategies. For a copy of this report and more information about the source water assessment or what consumers can do to help protect the aquifer, please call (513) 425-1860 or (513) 425-7781.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Scott Belcher, Treatment Plant Manager, at (513) 425-7781.

What Are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit bit.ly/3Z5AMm8.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic Contaminants, such as salts and metals, which can occur naturally in the soil or groundwater or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive Contaminants, which can occur naturally or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, U.S. EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily mean that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline at (800) 426-4791 or visiting epa.gov/safewater.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead, you may wish to have your water tested. A list of laboratories certified in Ohio to test for lead may be found at epa.ohio.gov/ddagw or by calling (614) 644-2752. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or epa.gov/safewater/lead.

Per the Lead and Copper Rule, public water systems were required to develop and maintain a service line inventory. A service line is the underground pipe that supplies your home or building with water. To view the service line inventory, which lists the material types for your location, please visit <https://cityofmiddletown.maps.arcgis.com/apps/dashboards/ce697b721608422aa7c16b8a88324abb>.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The water we deliver must meet specific health standards to comply with Safe Water Drinking Act state and federal regulations. Substances detected are listed in this report, along with their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data is included, along with the year in which the sample was taken.

Note that we have a current, unconditioned license to operate our water system.

REGULATED SUBSTANCES								
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)		2023	2	2	0.665	0.5675–0.885	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine (ppm)		2024	[4]	[4]	0.7625	0.7–0.82	No	Water additive used to control microbes
Fluoride (ppm)		2024	4	4	0.98	0.71–1.09	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)		2023	3	NA	1.49	NA	No	Erosion of natural deposits
Haloacetic Acids [HAAs] (ppb)		2024	60	NA	5.2	3.3–5.2	No	By-product of drinking water disinfection
Nitrate (ppm)		2024	10	10	1.11	NA	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radium 228 (pCi/L)		2023	1	NA	0.537	NA	No	Erosion of natural deposits
TTHMs [total trihalomethanes] (ppb)		2024	80	NA	24.2	19.6–24.2	No	By-product of drinking water disinfection
Tap water samples were collected for lead and copper analyses from sample sites throughout the community								
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2022	1.3	1.3	0.0465	0.002–0.0762	0/32	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2022	15	0	0.9114	0.1–2.11	0/32	No	Lead service lines; corrosion of household plumbing systems, including fittings and fixtures; erosion of natural deposits
UNREGULATED SUBSTANCES								
SUBSTANCE (UNIT OF MEASURE)			YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE		
Nickel (ppb)			2023	2.9	NA	Naturally occurring		
Perfluorooctanesulfonate Acid [PFOS] (ppb)			2024	0.00432	ND–0.00432	Runoff from landfills; firefighting foams and other industrial products		



Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (µg/L) (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (mg/L) (parts per million): One part substance per million parts water (or milligrams per liter).



Why save water?

Although 80 percent of the Earth's surface is water, only 1 percent is suitable for drinking. The rest is either saltwater or permanently frozen, and we can't drink it, wash with it, or use it to water plants.

Which household activity wastes the most water?

Most people would say the majority of water use comes from showering or washing dishes; however, toilet flushing is by far the largest single use of water in a home (accounting for 40 percent of total water use). Toilets use about 4 to 6 gallons per flush, so consider an ultra-low-flow (ULF) toilet, which requires only 1.5 gallons.

Should I be concerned about what I'm pouring down my drain?

If your home is served by a sewage system, your drain is an entrance to your wastewater disposal system and eventually to a drinking water source. Consider purchasing environmentally friendly home products whenever possible, and never pour hazardous materials (e.g., car engine oil) down the drain. Check with your health department for more information on proper disposal methods.

How long can I store drinking water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water can be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

How long does it take a water supplier to produce one glass of treated drinking water?

It can take up to 45 minutes to produce a single glass of drinking water.

