

2025 Annual Drinking Water Quality Report

Town of Charlestown, Maryland

Public Water System ID: #0070029

This report outlines the Town of Charlestown's drinking water quality in 2025, in compliance with federal and state regulations under the Safe Drinking Water Act (SDWA). The Town of Charlestown is pleased to inform residents of essential information about the quality and safety of their drinking water.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.)

Water System Information – Water Sources:

We are committed to providing safe, reliable drinking water that meets or exceeds all federal and state water quality standards. This report is issued annually as required by law and reflects testing performed between January 1 and December 31, 2025. If you have questions about this report or your water utility, please contact the Town Administrator at **410-287-6173**. We encourage our customers to stay informed about their water quality. An initial Service Line Inventory was submitted to the Maryland Department of the Environment on October 18, 2024. As a result, the Service Line Inventory requirement was fulfilled. The report is available upon request. The source water assessment has been performed by the Maryland Department of the Environment and is accessible on their website at:

https://mde.maryland.gov/programs/Water/water_supply/Source_Water_Assessment_Program/Pages/by_county.aspx

Where Does Your Water Come From?

The Town of Charlestown is committed to ensuring that its 3,791 residents have continuous access to safe, high-quality drinking water. Your drinking water is sourced from a confined, non-marine Cretaceous aquifer located approximately 200 feet deep. This groundwater supply is naturally protected and filtered through geologic formations, which helps reduce potential contaminants before the water even reaches the treatment stage.

Although Charlestown uses groundwater, other familiar drinking water sources include rivers, lakes, streams, ponds, and reservoirs. As water travels over land or underground, it can pick up a variety of substances, such as microbes, inorganic and organic chemicals, and radioactive materials. To protect public health, the EPA sets strict limits on the levels of these contaminants allowed in public water systems. However, the presence of a contaminant does not automatically indicate a health risk. For more information, please contact the **EPA's Safe Drinking Water Hotline at 1-800-426-4791**.

Definitions and Abbreviations:

The following tables list the regulated contaminants detected in Charlestown's water system during the 2025 reporting period. All results were within allowable limits unless otherwise noted.

Action Level (AL) - The concentration of a contaminant that, if exceeded, triggers additional treatment or actions.	Disinfectants and Disinfection Byproduct Rules (DDBPs) are compounds that form in water when disinfectants, such as chlorine, react with naturally occurring organic matter and other materials present in the source water. Exposure to high levels of some DBPs over time may pose health risks. Common examples include Trihalomethanes (TTHM) and Haloacetic acids (HAA5).	Entry Point Disinfectant - refers to the level of disinfectant remaining in the water when it enters the distribution system of a water utility. This residual is a measure of the effectiveness of disinfection, ensuring that the water remains safe for consumption. The minimum acceptable level is typically 0.2 mg/L, as defined by regulations like the EPA's Surface Water Treatment Rule (SWTR).
Lead and Copper Rule (LCR) - a federal regulation implemented by the Environmental Protection Agency (EPA) to protect public health by minimizing the levels of lead and copper in drinking water.	Maximum Contaminant Level (MCL) - The highest level of a contaminant allowed in drinking water.	Maximum Contaminant Level Goal (MCLG) – A contaminant level at which no known or expected health risk exists.
Maximum Residual Disinfectant Level (MRDL) - the highest level of a disinfectant allowed in drinking water.	Minimum Residual Disinfectant Level (MinRDL) – the minimum level of residual disinfectant required at the entry point.	Microbes (plural for microbe) - microscopic organisms such as bacteria, viruses, and algae, that may be found in water.
Disinfectant Residual (DR) in drinking water refers to the amount of disinfectant (such as chlorine or chloramine) remaining in the water supply after treatment to kill bacteria and other harmful microorganisms.	Per-Polyfluoralkyl Substances (PFAS) – a group of artificial chemicals used in various products to make them resistant to grease, oil, water, and heat.	ppb = parts per billion, or micrograms per liter (µg/L)
The Revised Total Coliform Rule (RTCR) is a federal regulation adopted by the Maryland Department of the Environment (MDE) to enhance public health protection by reducing potential pathways for fecal contamination in public water systems.	Synthetic Organic Chemicals (SOC) – manufactured organic compounds that can enter the water supply. They are often used in agricultural practices, industrial processes, and as additives in various products.	Total Coliform Rule (TCR) - a regulation for drinking water that ensures the safety of public water systems.
Avg: Average - Regulatory compliance with some MCLs is based on the running annual average of monthly samples.	LRAA: Locational Running Annual Average	N/A not applicable.
ppt : One part per trillion is equivalent to one nanogram (ng/L) per liter. A single drop of food coloring in 18 million gallons of water.	Picocuries per liter (pCi/L) : Picocuries per liter is a measure of the radioactivity in water.	
Nd : not detectable.	ppm = parts per million, or milligrams per liter (mg/L)	

Detected Contaminants Table:

2025 Chemical Contaminants – Regulated Contaminants

Contaminants	Collected Date	Highest Value	Range	Unit	MCL	MCLG	Violation Y/N	Typical Contamination
Nitrate-Nitrite	06/17/2025	0.2	0.2-0.2	mg/L	10	10	No	Runoff from fertilizer use, leaching from septic tanks, sewage, and erosion of natural deposits
Sodium	06/17/2025	28.1	28.1-28.1	mg/L	N/A	N/A	No	Naturally occurring; runoff from road salts; water softeners; saltwater influence, where applicable.
Xylenes, Total	06/17/2025	2.26	2.26-2.26	µg/L	10,000	10,000	No	Discharge from petroleum factories; discharge from chemical factories.

Lead & Copper - 2024

Contaminant	Year Sample Collected	90 th Percentile	Range of Sampled Results	MC LG	MCLG, MRDLG, or AL	Highest Level Detected	Units	# Sites Above Action Level	Violation Y/N	Source of Contamination
Copper	2024	0.4	<0.005 - 0.6	1.3	1.3 (AL)	0.68	ppm	0	No	Corrosion of household plumbing.
Lead	2024	2	<0.05 – 2.0	0	15	0.017	ppb	0	No	Corrosion of household plumbing.

* Lead and Copper are monitored every three years. The next scheduled sampling period is from June 1, 2027, through September 30, 2027.

2025 Microbial Information

Routine coliform samples were collected throughout the 2025 reporting period. Total coliform and E. coli were absent in the compliance samples reviewed. Therefore, no microbial detections are included in the detected contaminants table.

2025 Violation Information

Based on the compliance information reviewed, no violations were reported for this water system during the 2025 reporting period.

Contaminants that may be present in some water include:

Inorganic contaminants, such as salt and metals, can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater, oil and gas activities, mining, or agricultural practices. **Organic chemicals**, including synthetic and volatile types, originate from various sources, including industrial processes, petroleum production, gas stations, urban runoff, and septic systems. **Radioactive contaminants** can also be naturally occurring or derived from oil and gas production and mining. Pesticides and herbicides originate from agricultural sources, urban runoff, and residential use. **Microbial contaminants**, such as viruses and bacteria, may originate from wastewater treatment plants, septic systems, livestock operations, and wildlife.

Special Consideration Regarding Children, Pregnant Women, Nursing Mothers, and Others:

Infants and young children are especially vulnerable to contaminants due to their developing systems and lower body weight. Accordingly, drinking water standards often prioritize health outcomes for these sensitive populations. If there is insufficient toxicity information for a chemical, such as a lack of data on reproductive or developmental effects, an additional uncertainty factor may be added to the calculation, making the standard stricter to address these uncertainties.

Additional Health Information:

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. The Town of Charlestown is responsible for providing high-quality drinking water and removing lead pipes; however, it cannot control the materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry, or a load of dishes. You can also use a filter certified by an American National Standards Institute-accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact the Town of Charlestown at (410) 287-6173. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

Cryptosporidium is a microscopic parasite that can contaminate water and cause illness. It is a one-celled parasite that resides in the intestines of both animals and humans. When infected individuals or animals shed the parasite in their feces, it can contaminate water supplies, particularly surface water sources such as rivers and lakes. The Town of Charlestown uses groundwater, and *Cryptosporidium* has not been detected in our water system. **Arsenic** is a naturally occurring element that, at elevated levels, may pose cancer risks. **Nitrate** is a compound found in fertilizers and other sources and can contaminate water, posing a health risk, particularly to infants.

Water Information Sources:

Maryland Department of the Environment Drinking Water: <https://health.maryland.gov/phpa/oehfp/chs/pages/drinkingwater>

Water Quality Association: <https://wqa.org>

Maryland Clean Water Act: <https://cleanwater.org/states/maryland>

Maryland Department of the Environment (MDE)- Water Supply Program - https://mde.maryland.gov/programs/water/water_supply

Maryland Public Drinking Water Watch - <https://waterwatch.md.gov>

EPA Safe Drinking Water Hotline – <https://www.epa.gov/sdwa>