



# WARREN COUNTY COMBINED HEALTH DISTRICT

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**Public Health**  
Prevent. Promote. Protect.

## Microbiological Standards for Private Water Systems

Private water systems provide drinking water in rural or suburban areas and include water wells, rainwater cisterns, springs, hauled water storage tanks, and ponds used for drinking water. Private water systems are regulated under Ohio Administrative Code (OAC) Chapter 3701-28 through Ohio's local health districts such as the Warren County Combined Health District. A private water system:

- Provides water to homes in rural and suburban areas that are not connected to public water systems;
- Is used for drinking water and other potable and domestic purposes;
- Serves water to small businesses, churches, etc. to fewer than 25 people less than 60 days out of the year; and,
- Have less than 15 service connections.

Larger water supply systems are regulated by Ohio EPA.

### Total coliform, fecal coliform, and *E. coli*

Total coliform, fecal coliform, and *E. coli* are all indicators of drinking water quality. The total coliform group is a large collection of different kinds of bacteria. Fecal coliforms are types of total coliform that mostly exist in feces. *E. coli* is a sub-group of fecal coliform. When a water sample is sent to a lab, it is tested for total coliform. If total coliform is present, the sample will also be tested for either fecal coliform or *E. coli*, depending on the lab testing method.

### Why collect and analyze water samples from private water systems?

All new private water systems are required to have a water sample collected by a local health district and analyzed for *E. coli* and the number of coliform bacteria to help ensure drinking water safety. Water samples may also be collected and analyzed for bacteria as part of a real estate evaluation, routine monitoring, or just out of curiosity.

**Total Coliform** are a bacterial group used to evaluate the condition or cleanliness of a water well, or used to determine if a disinfection system is working properly.

***E. coli*** bacteria are used as an indicator of the sanitary condition of a water supply.

Microbiological water samples are reported as colony forming units (CFUs) or the equivalent most probable number (MPN) of colonies.

## What are the microbiological standards for wells with 25 feet of casing or greater?

For private water wells with 25 feet of casing or greater, lab results for a 100 mL water sample shall have:

- Four (4) or fewer total coliform CFUs reported as MPN; and,
- No detection of *E. coli* (less than 1 MPN or CFU)

Low levels of coliforms can occur naturally in ground water and will not make healthy people sick. Levels of coliform over four (4) colonies can indicate poor well construction or cleaning, or issues related to aging of the well such as the presence of holes in the well casing.

## What happens if total coliform bacteria are confirmed in my water?

If total coliform bacteria are confirmed in your drinking water by a water sample analysis, you will be advised to not drink the water until such time as the water is determined to not contain any coliform bacteria above the allowable level. Following the initial water sample and positive analysis, we recommend that you disinfect your private water system with chlorine (Laundry Bleach = 5.25% Chlorine) and to have the water re-sampled 48 hours after having flushed all chlorine from the water system. The purpose of this disinfection procedure is to disinfect the physical and mechanical aspects of your private water system to eliminate normal occurring bacteria that may have accumulated in the water system or household plumbing. It is not unusual to have to repeat this procedure with a stronger chlorine solution should the sample come back as positive following the initial disinfection procedure. We recommend that this disinfection process be completed at least once each year as part of normal water system maintenance.

## What are the microbiological standards for private water systems that use continuous disinfection or receive water from a hauled source?

The lab results for a 100 mL water sample for a private water systems using continuous disinfection such as shallow wells, rainwater cisterns, springs, or ponds, or for hauled water storage tanks that receive water from a public water supply shall have:

- No detection of any total coliform colony forming units (CFUs) or less than 1 most probable number (MPN); and,
- No detection of *E. coli* (less than one CFU or MPN)

The absence of total coliform and *E. coli* in a water sample is a good indicator that a disinfection system is functioning properly.

If you have further questions or desire more information, please contact the Environmental Health Division at the Warren County Combined Health District at 513-695-1220 or at [www.wcchd.com](http://www.wcchd.com).

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