

Benefits of UV-C for Failed Water Tests

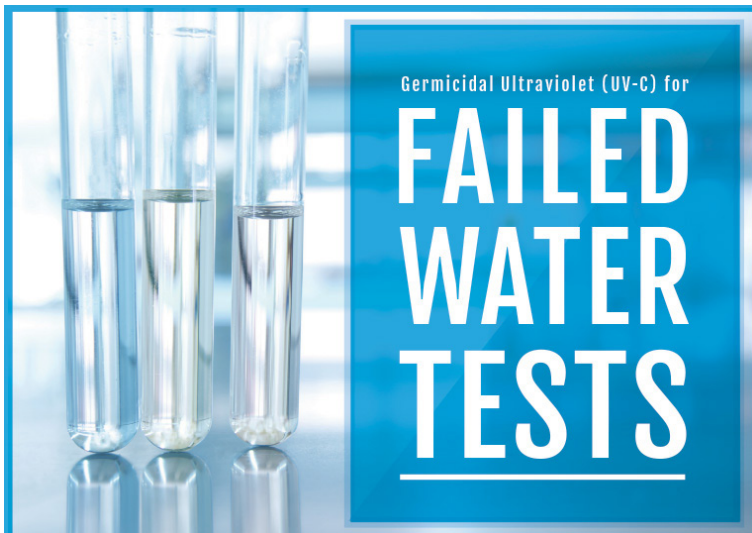
Test Before Distress

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What is a Failed Water Test?



A water test analyzes contaminants and water quality indicators (WQIs) found in the water supply. A failed water test may indicate that there is too much of a particular microorganism that could be harmful in the water and that renders it unsafe to drink or use.

Whether your water comes from a private well or a public source, having your water tested is the first step in protecting yourself and your loved ones from ill-effects caused by potentially bad water. Once you know what you're dealing with from the results of your water analysis, you can adequately treat your water and regain peace of mind.

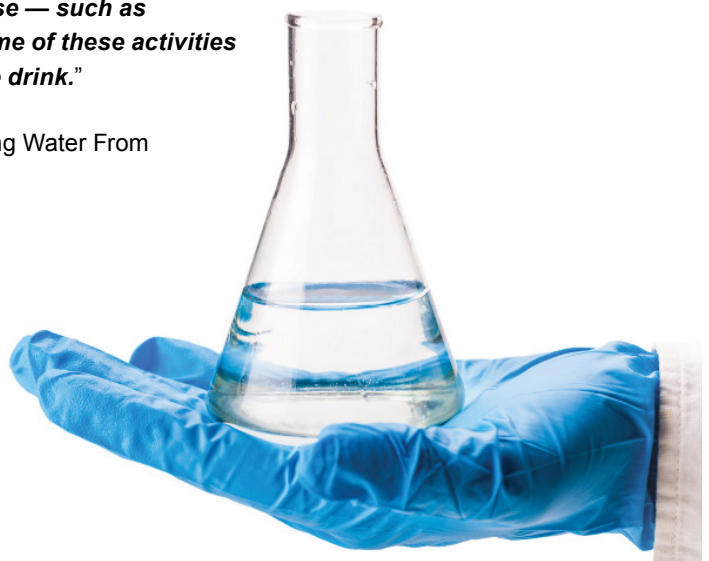
Why do I Need to Take a Water Test?

Testing your water is the first step in protecting your health. If you receive your water from a well, it is an essential part of maintaining a safe water source. Changes in the appearance, taste, and smell of your water are easily recognizable concerns. However, according to the EPA's Drinking Water from Household Wells, potentially severe contaminations from bacteria, heavy metals, nitrates, radon, and other chemicals that are naked to our senses can only be determined through testing.

"Other potential sources come from past or present human activity — things that we do, make, and use — such as mining, farming and using chemicals. Some of these activities may result in the pollution of the water we drink."

— Environmental Protection Agency, "Drinking Water From Household Wells"

Your water test should include analysis for total coliform bacteria, nitrates, total dissolved solids, and pH levels. Experts recommend you also speak with your county health department for additional substances you should screen for based on your well's geography and surrounding agriculture or industry.



How do I know When to Take a Water Test?



If your well is shallow, aging, located near livestock, septic systems, landfills, or manufacturing plants, there is more opportunity for contamination. Pregnant women, babies, infants, elderly, or immune-compromised people are more susceptible to the ill effects of contaminated water. Even if your water comes from a municipal water supply, there are still plenty of reasons to have your water tested.

Most of the country's pipes and water systems were designed and installed over 100 years ago. Large municipalities and cities nationwide have staff that monitors water quality around the clock. Many smaller communities aren't able to keep up with monitoring their water quality and maintaining their aging infrastructure as required by the Safe Water Drinking Act (SDWA).

Take Control of Your Water Quality

Groundwater is always moving. As a result, there is the endless opportunity for your water source to become contaminated. More than 15 million U.S. households use private water wells, and the well's owner is responsible for overseeing the safety and quality of the water. Experts recommend testing the well's water annually by a certified laboratory. More frequent testing may be necessary if there is cause for concern.

If your water source is public, you should receive an annual Consumer Confidence Report from your utility containing important information regarding the water's quality. Unfortunately, according to a May 2017 report by the Natural Resource Defense Council (NRDC) titled "Threats on Tap: Widespread Violations Highlight Need for Investment in Water Infrastructure and Protections,"

"...there were more than 80,000 violations of SDWA rules that year. These violations included exceeding health-based standards, failing to properly test water for contaminants, and failing to report contamination to state authorities or the public in 2015 alone..."

— NRDC, "Threats On Tap"

Regardless of your water source, regular testing is an easy and valuable way to educate yourself about the quality of your water and take control by installing a water filtration and disinfection system on your water supply.



Source: NRDC, "Threats on Tap"

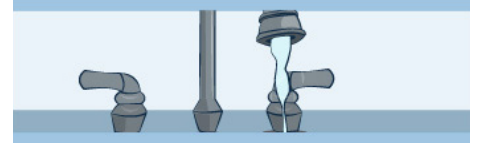
General Changes that Indicate It's Time for a New Water Test



Symptoms such as nausea, diarrhea, cramping, vomiting, or headaches



Water is off-color, cloudy, or has an odor



Reduction in water pressure

In Addition, If Your Water is from a Private Well:

If the following factors are present, you should also get your water tested.

- Flooding, storm surge, or tornado activity
- Increase in construction or agriculture activity
- Increase in mining activity or a recommission of an old mine
- Known issues with neighboring septic systems or cesspools
- Repair to pipes, pumps, and/or the well casing
- Recently decommissioned well in your area
- If your well is newly drilled or bored larger



Or If Your Water is from a Public Water Source

Get your water tested regularly if your municipality frequently issues boil water alerts and is often plagued by water main breaks and other infrastructure failures

Selling Your Home

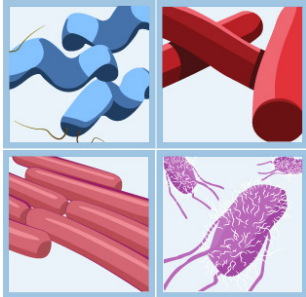
Many municipalities and mortgage companies require mandatory water analysis that tests—at a minimum—bacteria, nitrate, and lead before closing on a home. As the seller, if you have a failed water test, you may be required to remedy the water quality before the sale can proceed.

Failed Water Test Concerns – Water Quality Indicators

The CDC recommends you have the total coliforms and fecal coliforms tested, and the **EPA’s standard for public drinking water** states that no coliform bacteria can be present. You are responsible for ensuring that your private well water is safe for consumption, and that no coliform bacteria is present. Total coliform is a class of diverse bacteria commonly found in the environment – on plants, in the soil, and in the stomachs of warm-blooded animals. Coliform is easy to detect in water and should not appear in treated water sources

Escherichia coli, or E. coli, is a fecal bacteria that is a part of the total coliform class. It can cause illness and disease. According to the **“World Health Organization’s Guidelines for Drinking-Water Quality”** paper, results exhibiting coliform bacteria indicate a possibility of fecal contamination in the water and should not be ignored. If your water test exhibits total coliforms present, your water is not suitable for consumption and must be treated.

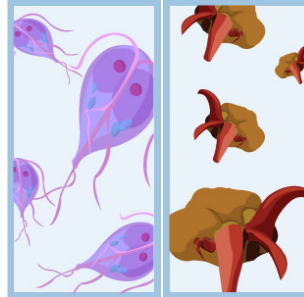
The CDC list the following contaminants as a concern in private wells:



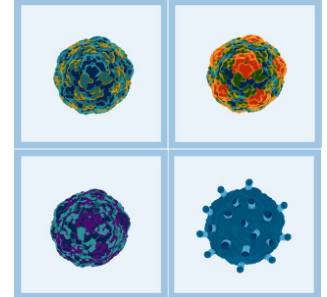
Bacteria: Campylobacter, E. Coli, Salmonella, Shigella



Chemical and Metal: Arsenic, Copper, Lead, Nitrate, Radon



Protozoa: Cryptosporidium, Giardia

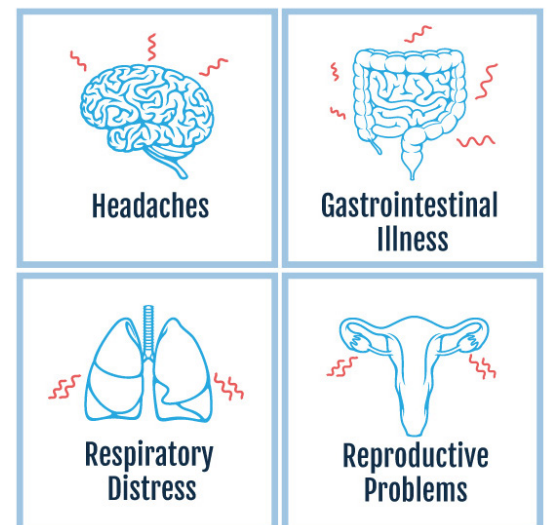


Virus: Enterovirus, Hepatitis A, Norovirus, Rotavirus

How can a Failed Water Test Effect My Health?

The above contaminants can cause a range of health concerns including:

- Recurring gastrointestinal illness
- Headaches
- Fatigue and weakness
- Irritability
- Respiratory distress, coughing, wheezing
- Reproductive problems
- Neurological disorders, developmental delay



Who is Most Susceptible to Contaminated Water?

- Babies, infants, and young children
- Pregnant women
- Elderly people
- Immune system compromised individuals such as those with AIDS, undergoing chemotherapy, or on organ transplant medications



What to do When My Water Test Fails and Comes Back Positive for Bacteria

Installing an appropriately sized Atlantic Ultraviolet water disinfection system will assist in getting your water back to a zero total coliform count with little maintenance. Atlantic Ultraviolet's UV-C water purification and disinfection systems use **STER-L-RAY®** UV-C Lamps, which produce ultraviolet wavelengths lethal to virtually all bacteria, protozoa, virus, and fungi. These germicidal lamps are shortwave, low-pressure tubes that emit 95% of their ultraviolet energy at 254 nanometers, the region of germicidal effectiveness most destructive to harmful microorganisms.

Selecting an Atlantic Ultraviolet (UV-C) Water Disinfection System to Treat Your Failed Water

1. Finding Your Flow Rate

The first step in selecting the appropriate Atlantic Ultraviolet water disinfection system is to find your flow rate in gallons per minute (GPM). We typically recommend as follows:

1 bathroom = 6 GPM, 2-4 bathrooms = 12 GPM, 5 bathrooms = 20 GPM

2. Selecting the Purifier that Fits Your GPM

Select a water purifier that fits your GPM and water disinfection needs. Our engineers developed the **SANITRON®**, **MINIPURE®**, **MIGHTY★PURE®**, and **Bio-Logic®** Ultraviolet Water Purifiers to provide continuous, chemical-free water purification, and more importantly, peace of mind.

3. Consider Point-of-Entry versus a Point-of-Use

You will want to consider a point-of-entry (POE) versus a point-of-use (POU) system.

4. Disinfect the Downstream Plumbing

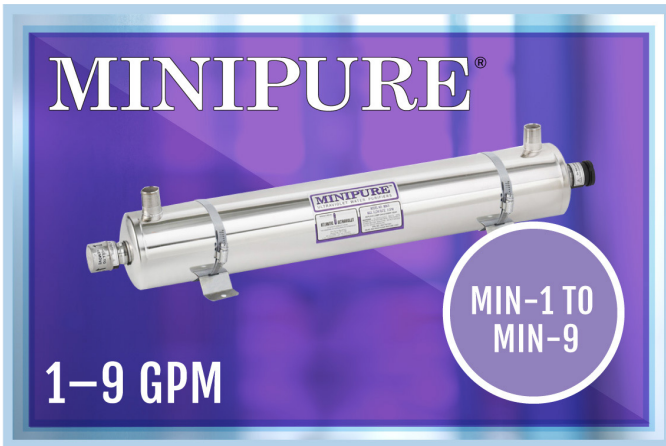
Once your UV-C disinfection system has been properly installed, disinfect the "downstream" plumbing between the purifier and point of use.

5. Installing a System that Fits Your Needs

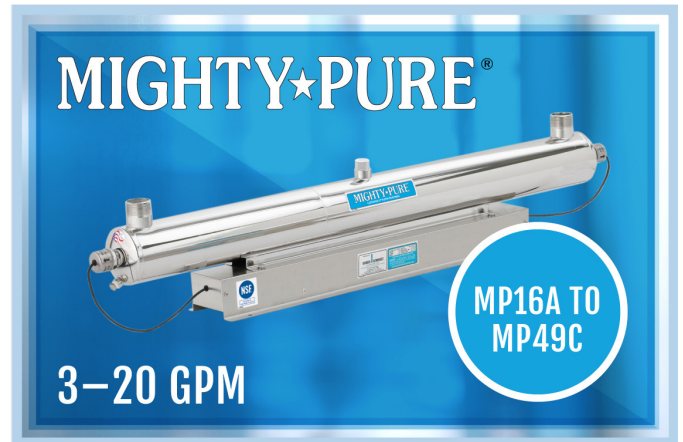
Our **Promate™** Wall-Mounting Kit will enable you to install your purifier in the correct position. **SureFLO™** Flow Control Valves are optional accessories that restrict the flow of your water to the rated flow of the water purifier, offering peace of mind to ensure that the right amount of water is treated.

4 UV-C Water Disinfection Product Lines

Our **Bio-Logic®** Ultraviolet Water Purifiers are designed for point-of-use installation, and come in either 1.5 or 3.0 GPM. The **Bio-Logic® Pure Water Pack™** includes a **Bio-Logic®** 1.5 GPM uv water purifier, a sediment and carbon filter, as well as an installation kit that includes tubing, a saddle valve, and long reach faucet.



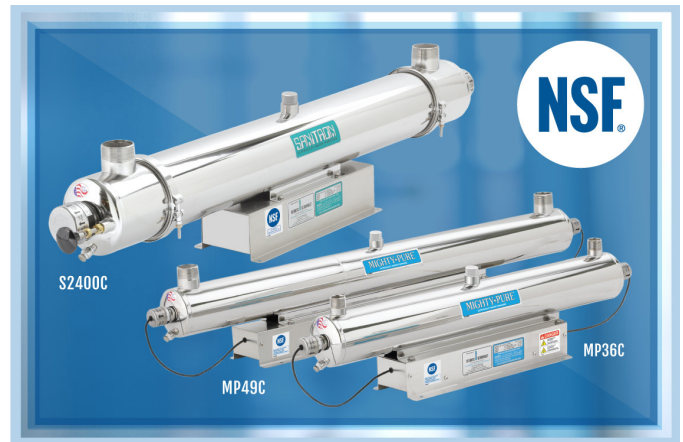
Our **MINIPURE®** UV Purifiers are designed for residential applications within the 1 to 9 GPM range. They come standard with lamp indicator lights that show lamp operation, as well as an audio alarm that alerts the user of system malfunctions.



Our **MIGHTY★PURE®** line is designed for residential or commercial use and ranges from 3 to 20 GPM. These units come standard with a sight port plug that safely shows UV lamp glow, as well as an integrated drain fitting that allows chamber draining without moving.



Our **SANITRON®** Ultraviolet Purifiers can be used in residential, commercial, or industrial applications within the 3 to 416 GPM range. Modular units can be added or removed to change GPM as needs change over time. In addition to a sight port and drain fitting, the **SANITRON®** features a patented dual-action manual wiper mechanism that cleans its quartz sleeves.



SANITRON® models S37C, S50C, and S2400C comply with **NSF®/ANSI 61 and 372** — Drinking Water System Component — Health Effects and Lead Content. **MIGHTY★PURE®** models MP36C (12 GPM) and MP49C (20 GPM) are available with Certification for **NSF®/ANSI Standard 55** — Ultraviolet Microbiological Water Treatment Systems.

About Atlantic Ultraviolet

Since 1963 Atlantic Ultraviolet Corporation® has engineered and manufactured ultraviolet water purification equipment, ultraviolet air sanitizing systems, UV surface disinfection systems, and germicidal UV lamps for residential, commercial and industrial applications.

STER-L-RAY® Germicidal Ultraviolet Lamps utilized in Atlantic Ultraviolet's products produce short wave radiation that is lethal to bacteria, virus and other microorganisms. The method is unique and rapid and does not utilize heat or chemicals. Ultraviolet technology is a well-established method for its effectiveness, and because the process is free of by-products.

Atlantic Ultraviolet has two goals: Continuing to develop strong business-to-business and business-to-consumer relationships, and continuing its leadership in applied ultraviolet technology with the development of new product lines.

Review Ultraviolet.com to "Learn" about the company & products. Visit BuyUltraviolet.com to "Shop" products and models of UV water, air/surface purification systems, and germicidal UV lamps. Be sure to visit the NSF® Certified Systems and Clearance sections.

A UV Application Specialist is always ready to take your call at 631-273-0500, Mon-Fri, 7am-6pm EST.



ATLANTIC  **ULTRAVIOLET**
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