



## Water Quality FAQs

### *Water Sources*

#### **Where does my drinking water come from?**

The United States has one of the safest and most reliable drinking water systems in the world. Every year, millions of people living in the United States get their tap water from a public community water system.

The drinking water that is supplied to homes comes from either a surface water or ground water source. Surface water collects in streams, rivers, lakes, and reservoirs. Ground water is water located below the ground where it collects in pores and spaces within rocks and in underground aquifers. We get ground water by drilling wells and pumping it to the surface.

After treatment, water travels to your tap from a surface water or ground water source through a network of pipes known as water mains.

### *Water Quality*

#### **How is my drinking water regulated?**

All public water systems in the United States, like those owned/operated by Aqua, are required to follow the standards and regulations set by the United States Environmental Protection Agency (EPA) and each state's environmental protection agency (e.g. PADEP).

#### **What type of health issues can be related to water quality?**

Some contaminants in water can lead to health issues, including gastrointestinal illness, reproductive problems, and neurological disorders. Infants, young children, pregnant women, the elderly, and people with weakened immune systems may be at increased risk for becoming sick after drinking contaminated water. For example, elevated levels of [lead](#) can cause serious health problems, especially for pregnant women and young children. Federal law requires that public water systems reduce certain contaminants to set levels in order to protect human health.



## *Water Safety*

### **Are there laws in place to ensure my drinking water is safe to drink?**

Yes, there are laws to ensure your water is safe to drink. The Safe Drinking Water Act (SDWA) is the principal [federal law](#) in the [United States](#) intended to ensure safe [drinking water](#) for the public. The act requires the EPA to set standards for drinking [water quality](#) and oversee [states](#), localities, and water suppliers that implement the standards. The SDWA applies to every [public water system](#) in the United States, which includes most Aqua customers. The Act does not cover private wells.

### **What standards does the EPA use to ensure water quality is maintained?**

The SDWA requires EPA to establish National [Primary](#) Drinking Water Regulations (NPDWRs) for contaminants that may cause adverse public health effects. The EPA also establishes [secondary](#) drinking water levels to manage water quality characteristics that may have aesthetic impacts.

Primary contaminants in [drinking water](#) are those that have the potential to affect health at certain levels. The EPA sets the Maximum Contaminant Level (MCL) that is allowed in [public water systems](#) under the [Safe Drinking Water Act](#). The limits are usually expressed as a [concentration](#) in milligrams or micrograms per liter of water.

Secondary drinking water standards are generally viewed as non-regulatory guidelines for aesthetic characteristics by EPA. Some states, such as PA, have chosen to enforce SMCLs like MCLs; however, most states have chosen not to establish their own regulations. Secondary Maximum Contaminant Level (sMCL) is also determined by the EPA to help measure certain contaminants in [drinking water](#) that do not affect public health.

The EPA establishes both mandatory levels ([Maximum Contaminant Levels](#), or MCLs) for primary contaminants and levels for aesthetic (for example, taste, color, and odor) purposes called sMCLs (secondary Maximum Contaminant Levels).

### **Does the EPA monitor every [public water system](#) in the United States?**

Yes, the EPA oversees the monitoring of U.S. public water systems. Public water systems (PWS) are required to regularly monitor their water for contaminants. Water samples must be analyzed using EPA-approved testing methods by laboratories that are certified by the EPA or a state agency. A PWS must notify its customers if it violates drinking water regulations or is providing drinking water that may pose a health risk. Such notifications are provided as soon as 24 hours after a violation to longer, depending on the health risk associated with the violation.

### **How does the EPA monitor every [public water system](#) in the United States by itself?**



The EPA delegates primary enforcement responsibility (also called primacy) for public water systems to states and Native American Tribes if they meet certain requirements. All states and territories, except [Wyoming](#) and the [District of Columbia](#), have received primacy approval from the EPA to supervise the PWS in their respective jurisdictions. A PWS is required to submit periodic monitoring reports to its primacy agency. Violations of the Safe Drinking Water Act requirements are enforced initially through a primacy agency's notification to the PWS and, if necessary, followed up with formal orders and fines.

### **How do I know that the water in my home is safe to drink?**

EPA is responsible for making sure that public water supplies within the United States are safe. In 1974, Congress passed the [Safe Drinking Water Act](#). This law sought to further protect the nation's public drinking water supply by giving EPA authority to set the standard for drinking water quality and oversee the states, localities, and water suppliers who implement those standards. In 1986 and 1996, the law was amended to protect drinking water and its sources, which include rivers, lakes, reservoirs, springs, and ground water wells.

### **How do germs and chemicals get into my drinking water?**

There can be many sources of contamination of water systems. The most common sources of contaminants include:

- Naturally occurring chemicals and minerals (e.g., arsenic, radon, uranium)
- Local land use practices (e.g., fertilizers, pesticides, livestock, concentrated animal feeding operations)
- Manufacturing processes
- Malfunctioning wastewater treatment systems (e.g., nearby septic systems)

EPA regulates many contaminants that pose known human health risks. EPA makes sure that water meets certain standards, so you can be sure that high levels of contaminants are not in your water.

### **How do I treat water at my home if I am concerned about water quality?**

Different types of treatment, e.g. water filters have different functions. Some can make your water taste better, while others can remove chemicals or germs. [Visit CDC's filter page to learn more](#) about home water filters.

### **How can I find out if there has been a violation in our public water standard?**

When water quality standards have not been met, public water systems must notify customers if there is a risk to their health. If there is a short-term risk, the water system will send out an alert. Your annual [Consumer Confidence Report \(CCR\)](#) is another way to find out about the water quality in your area, and find information regarding contaminants, possible health effects, and the water's source.



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You can find your water system's CCR [here](#).

### *Water Testing*

#### **Who do I need to contact to find out more information about water quality in my area?**

Every community water supplier must provide an annual report to its customers, known as a [Consumer Confidence Report \(CCR\)](#). The report provides information on your local drinking water quality, including the water's source, contaminants found in the water, and how consumers can get involved in protecting drinking water.

You can find your water system's CCR by clicking here (hyperlink).

#### **How often does Aqua test my drinking water?**

Frequency of drinking water testing depends on the number of people served, the type of water source, and types of contaminants. Certain contaminants are tested more frequently than others, as established by the Safe Drinking Water Act. You can find out about levels of regulated contaminants in your treated water for the previous calendar year clicking here (hyperlink).

#### **What common contaminants are included in this testing?**

EPA sets standards and regulations for the presence and amount of over 90 different contaminants in public drinking water, including *E.coli*, *Salmonella*, and *Cryptosporidium* species. Visit EPA's [Drinking Water Contaminant Candidate List and Regulatory Determination](#) website for more information.

#### **Who should I contact if my water has a funny smell, taste, or appearance?**

A change in your water's taste, color, or smell is not necessarily a health concern. However, sometimes a change can be a sign of problems. If you notice a change in your water, please call Aqua at 877-987-2782 so we can investigate.

### *Water Advisories and Customer Notifications*

#### **How does Aqua alert its customers of a water emergency or quality issue?**



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Aqua alerts its customers to water emergencies or quality issues via WaterSmart Alerts. Customers can sign up on the [WaterSmart Alerts page](#) of the Aqua website or call customer service at 877.987.2782.

Once a customer enrolls, notifications are sent through a preferred method of communication (email, telephone or text/SMS message) to ensure messages are received promptly.

### **How do I find out if there is a boil water advisory or other water advisory in my community?**

- Aqua is responsible for notifying customers if the water quality does not meet EPA or state standards, or if there is a waterborne disease emergency. EPA sets guidelines for when residents must be notified depending on the seriousness of a contamination event. Aqua sends messages via phone call, text or email when necessary to provide an alert to our customers ([sign up here](#)), and our Service Disruption map [on the Aqua website](#) can provide additional information. In addition, you may be notified by media outlets or other communication channels.

### **What is the difference between a boil water advisory and a system pressure advisory?**

A boil water advisory is an EPA required notification that a contaminant has been detected in the water supply. Customers should follow directions supplied by Aqua to disinfect the water. A System Pressure Advisory (SPA) is a non-regulatory **notification provided by Aqua** that the water could have come in contact with contaminants due to a pressure loss in the distribution system. It is extremely rare for this type of contamination to occur, **but Aqua** issues SPAs out of an abundance of caution for its consumers.

### **If there is a boil water advisory in my community, how do I disinfect my drinking water?**

To disinfect your drinking water during a boil water advisory, you should boil your water at a rolling boil for at least 1 minute. Boiling your water for at least 1 minute at a rolling boil will kill harmful bacteria, parasites, and viruses from drinking water.

### **Where do I go to find out if there are contaminants in my water?**

Community water systems must provide an annual “Consumer Confidence Report” (CCR) to customers. The report identifies contaminants, if any, in the drinking water and explains the potential health impacts. You may view your CCR at any time [on the Aqua website](#).

## *Rates*

### **Why are my water rates rising?**

The cost of drinking water is rising as suppliers need to address aging infrastructure, comply with more stringent public health standards, and provide additional water capacity as the number of customers served increases.



*Water Aesthetics (color, odor, taste)*

### **Why is my water discolored?**

All sources of drinking water contain naturally occurring minerals. Throughout areas of the United States, iron and manganese are minerals that occur naturally in groundwater. These minerals can discolor water and affect its taste.

Although these minerals are not noticeable at lower levels, these minerals oxidize and can become visible when chlorine is added to water during the water treatment process.

### **My water is typically clear but why do I occasionally get periods of discolored water?**

Temporary discoloration could be caused by a number of factors

- a main break or construction on the distribution system
- water pump failure (i.e., power surge/outage)
- a surge from high water usage
- a change in directional water flow within the pipes
- a pocket of iron or manganese being pulled from the aquifers (for those with groundwater sources)

### **Why do I seem to have more water discoloration issues than my neighbors?**

Iron and manganese mineral levels travel through distribution systems and can build up at the end of the distribution lines. Cul de sacs often have distribution lines that dead-end, and as a result the minerals build up in these locations. This issue can sometimes be addressed by installing an automatic flushing device on these dead-end lines that automatically turns on and periodically flushes to remove the minerals that start to build up in these locations. When Aqua becomes aware of water quality issues caused by this circumstance, the company will sometimes typically install an automatic flusher to help address this concern, if possible.

### **Why is my water hard and is there anything I can do to soften it?**

Hardness is a characteristic of water and occurs naturally. As the water travels through the ground and enters the aquifer, minerals such as calcium and magnesium that are present in the bedrock dissolve into the water supply. These minerals that leach into the water give the water what is commonly called "hard" water.



These minerals can build up in home hot water heaters. Here are some tips to consider to help reduce water hardness:

- Reduce the temperature of your hot water heater.
- Flush your hot water heater regularly.
- Purchase an in-home water softener.

#### **Why does my water smell like rotten eggs?**

- Although this is not a pervasive issue in Aqua's water systems, hydrogen sulfide and sulfates are naturally occurring in some areas.
- Sometimes water that has sat unused for a while in a water heater can also cause a rotten egg odor. Many times, a sulfur smell is caused by the anode rod in your water heater. Flushing out your hot water heater can resolve this problem.
- Accumulation of soap, shampoo, and food particles can cause a sulfur smell from a drain. Carefully pouring a small quantity of bleach down the drain can help this problem.

#### **Why does my water sometimes smell like bleach?**

Before water enters the distribution system, it is disinfected. Chlorine, chloramines, or chlorine dioxide are most commonly used for this purpose because they are very effective. The residual concentrations can be maintained in the water distribution system for periods of time, which can give off slight chlorine or bleach smells by the time it reaches your tap.

#### **What can customers do to help reduce the effects of iron and manganese?**

Water from your tap might be clear, but when exposed to air or chlorine, iron and manganese can change from a colorless, dissolved (soluble) form into a colored, solid (insoluble) form. Exposure to heat might also cause the iron and manganese to change from a colorless, dissolved form to a colored, solid form.

At certain concentrations, iron has the potential to stain laundry, porcelain, dishes, utensils, and even glassware a reddish, brown color. At elevated concentrations, manganese causes a brownish-black stain. Not all soaps and detergents remove these stains, and chlorine bleach and some laundry detergents can intensify these stains. Steps you can take to help alleviate discoloration include:

- Reducing the temperature of your water heater. The higher the temperature, the more likely minerals could build up in the water heater. Most manufacturers recommend flushing water heaters at least once a year to help reduce the buildup of sediment and mineral deposits.
- Washing laundry in cold water may reduce the staining of laundry caused by iron and manganese.
- Using products such as Iron Out, Red-B-Gone or other bleach-free detergents might help remove stains caused by iron and manganese.



It is important to **not** run hot water if you notice it is discolored to avoid drawing the discolored water into the hot water tank.

If you have a problem with discolored water, please call Aqua Customer Service at 877.987.2782.

### **What is water main or distribution system flushing?**

Water main flushing is done to clean and maintain water distribution systems. During this activity, water is forced through water mains and flushed out of hydrants to remove sediment that may have accumulated. Flushing can take a few minutes or several hours.

### **What will happen in my neighborhood when flushing takes place?**

Aqua will notify customers in advance of **planned** outages to make repairs that may cause discolored water during regularly scheduled proactive flushing activities. During flushing operations, residents may hear water discharging with force from the hydrants and see water flowing in the streets.

To address episodes of discoloration, flushing can be done in response.

### **What will happen in my home or business when Aqua flushes my system?**

When crews are flushing the water system close to your residence or business, you may experience temporary periods of low water pressure. Flushing operations may also lead to heightened discolored water, which can be drawn into homes and businesses if the water is being used during or immediately following the flushing. This is a temporary condition and should only affect customers for a few hours at most. The discoloration can stain laundry, so it is best to make sure your water is clear before doing laundry.

### **Is the water safe to drink while it is being flushed?**

Yes, it is safe to drink water during flushing operations. While we are not suggesting that you consume discolored water, the temporary discoloration is caused by minerals and other fine particles, such as iron and manganese, which are not harmful to your health.

### *Chloramines*

### **Why are chloramines toxic to fish?**



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Chloramines are a combination of chlorine and ammonia, both of which are toxic to saltwater and freshwater fish, including koi. Chloramines do not break down as quickly as other forms of chlorine thereby causing problems for fish. As chloramines break down, either naturally or through the use of dechlorination chemicals, ammonia is freed up. This ammonia can be removed from fish tanks or ponds by using commercial products available at pet supply stores. Biological filters, natural zeolites and pH control methods are also effective in reducing the toxic effects of ammonia.

**Will letting water sit for a few days cause chloramines to disappear?**

No. Unlike chlorine, which dissipates when water sits for a few days, chloramines may take weeks to disappear.

**Do chloramines have to be removed if only a small amount of water is added to an aquarium or pond to make up for evaporation loss?**

To know for sure, you'll have to monitor for total chlorine residual. Chloramine residuals in water used to keep fish should be kept below 0.1 mg/L. Total chlorine test kits are available from pet stores, pool supply stores and chemical supply houses. Make sure, however, that the kit is for "total chlorine" or "combined chlorine," not "free chlorine." A free chlorine test of chloraminated water could read zero but still be toxic to fish.

**Will a carbon filter remove chloramines?**

Yes. To be effective, however, it must contain high quality granular activated carbon and you must permit sufficient contact time between the water and the carbon.

**Will boiling remove chloramines from water?**

No. Boiling is not an effective way to remove chloramines from water. The only practical methods of removing chloramines from water are using a water conditioner that dechlorinates by using granular activated carbon. Ask your pet supplier for instructions on how to use these products.

*Chlorine*

**Do utilities disinfect water by using chlorine?**

Water utilities throughout the country are required by state environmental commissions and the US EPA to disinfect the water and chlorine is an effective treatment.

*Water Hardness*

**What makes water hard or soft?**



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Water that is referred to as being “hard” contains minerals, specifically calcium and/or magnesium. Water that is hard is more difficult to produce suds from soaps or detergents. For example, cleaning clothes in water that is hard will require more detergent than if the water is soft.

### **Is it best to have hard or soft water?**

The answer to this question is really a matter of personal preference. Hard water is not known to cause any adverse health effects, however, it can cause you to use more soap. To have a “ring around the bathtub,” and can contribute to white residue on dishes and plumbing fixtures.

Soft water is more corrosive than hard water. This can affect plumbing materials such as copper pipes, causing more metal to leach into the water faster eroding of the pipe wall. Water that has been softened, for example with a “water softener,” usually has elevated levels of sodium. This may be important information to a person on a salt restricted diet.

**How does the hardness compare in groundwater, lake water, and distilled water?** The hardness of tap water depends on the source of supply and the treatment of the water. Lake waters typically contain low to moderate levels of hardness (50-150 mg/L) Distilled water should have no detectable hardness present. The process of distillation should remove the minerals that contribute to hardness.

## *Mold*

### **What is mold?**

Molds are living organisms, and like all living organisms, molds need water to live. Molds can grow on almost any surface and only require dampness—a small amount of water—and a food source to thrive.

### **How can I tell if I have mold?**

Dark gray, black, and/or pink stains or slippery residues in the shower, a toilet, or at a tap might be signs of molds. These residues indicate the presence of naturally occurring airborne mold which is commonly seen in our area and is generally harmless.



Drinking water is disinfected at our water treatment plants to ensure that it remains clean as it travels from the treatment plant, through the distribution system and into your home. If the water collects on surfaces, which remain damp or moist for long periods, it will lose its disinfectant and those surfaces can become a prime growth site for molds or other microbials. Surfaces such as shower curtain, under the rim of a toilet, and inside the aerator of your faucets are examples of locations where mold or microbials are often visible to customers.

Varying weather patterns can increase the potential of mold growth within the home as warm and cold-water flows through pipes. Molds are more likely to grow in homes during winter when interior heat causes condensation, as a result of cold water in the plumbing interacting with the warm air inside the home. Building materials, such as drywall, can absorb the moisture and provide a food source for molds.

### **How can I help prevent mold inside my home?**

Wipe the walls and door, or curtain, of the shower, and spray with a product that contains bleach or other disinfectant. Remove and soak your sink aerators in a diluted bleach solution, using an old toothbrush to scrub them. Use a cotton swab soaked in bleach to disinfect the refrigerator water dispenser. Be careful when using strong bleach! Take precautions to prevent bleach from splashing in your eyes or on your clothes.

*PFAS (for additional info, visit [waterfacts.com](http://waterfacts.com))*

### **What are PFOA, PFOS and PFAS?**

Perfluorochemicals are a family of manmade chemicals that have been used for decades as an ingredient to make products that resist heat, oil, stains, grease and water, and are extremely resistant to breakdown in the environment.

Common uses include: 1) nonstick cookware, stain-resistant carpets and fabrics, 2) coatings on some food packaging—especially microwave popcorn bags and fast-food wrappers, 3) firefighting foam, and 4) many industrial applications. PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs).



PFOA and PFOS have been the most extensively produced and studied of these chemicals. They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. They are also used for firefighting at airfields and in a number of industrial processes.

### **Is my water safe to drink?**

Yes. The water provided by Aqua tests well below the current U.S. Environmental Protection Agency (EPA) health advisory levels for PFOA/PFOS and is safe to drink. Testing to date has not detected levels over the EPA Health Advisory of 70 parts per trillion at active sources. Both the EPA and Pennsylvania Department of Environmental Protection (DEP) consider this level protective of public health.

### **Who is responsible for regulating PFAS in drinking water?**

In Pennsylvania, the EPA and PA DEP set and regulate water standards.

The EPA identifies the contaminants to regulate in drinking water, and they set regulatory limits for amounts of certain contaminants. The EPA currently regulates 90 chemicals in drinking water with “limits” called maximum contaminant levels (MCLs). Aqua uses the EPA’s maximum contaminant levels to ensure water quality.

There are some contaminants for which the EPA develops health advisories that do not have set regulatory limits. The health advisories provide technical information on health effects. PFAS are included in those contaminants that have no regulatory limit but are associated with a health advisory.

### **What is Aqua doing to address the issue?**

Since the EPA announced a PFAS Health Advisory Level of 70 parts per trillion in 2016, Aqua has taken proactive measures to ensure that we are delivering safe water that meets all federal and state health requirements. These include:

- Investing in equipment for regular in-house analysis;
- Installing granular activated carbon (GAC) filters on two systems with the highest level of PFAS, ensuring that all active water sources are far below the 70 PPT health advisory level;
- Completing engineering evaluations of the Neshaminy water treatment plant and evaluating impacts of the National Guard’s treatment system on levels in the creek; and
- Continually evaluating alternative treatment options, including ion exchange resins and other technologies.



Beyond operational efforts, Aqua is committed to educating customers and the public on PFAS through our dedicated website, WaterFacts.com, and through meetings with stakeholders. These actions include:

- Regularly sharing updated laboratory results and PFAS information on WaterFacts.com, and sending proactive notifications as new results are posted;
- Attending meetings for the BRAC (Base Realignment and Closure) with the U.S. Navy, Air Force, EPA, PA Department of Environmental Protection and other agencies to learn more about local and national efforts to address PFAS; and
- Being proactive participants surrounding this issue on the national level, participating in the May 2018 National Leadership Summit by the EPA on PFAS.

Bolstered by our work over the past two years, Aqua continues to move forward with our plan to address PFAS in the anticipation of regulations. Our PFAS action plan employs a tiered approach, starting with systems of highest PFAS concentrations and evaluating the best actions. This plan includes:

- Evaluating the use of various sources to meet system demands, coupled with their PFAS concentrations, to understand the relative importance of each source in overall system operation;
- Making capital investments;
- Reviewing and anticipating related operational expenses where necessary; and
- Adjusting or removing sources of supply.

Developing this action plan for all sources is ongoing and may take some time due in part to the regional and interconnected nature of our systems, which require coordination with various local, state and federal stakeholders. As an industry leader, Aqua remains steadfast in its commitment to addressing this issue and we look forward to the EPA and DEP issuing a rule that will help further guide our actions.