

Drinking Water FAQ



CONCERNS REGARDING MUNICIPAL WATER

Here is some helpful information regarding concerns you may have about whether or not your municipal water is safe to drink. Water is a big part of our daily living that we don't often think about. We hope this information will answer some of the commonly asked questions about when and what to test your water for.

It is the responsibility of the municipal water supplier to make sure your water is potable based on an extensive list of tests that are required by the EPA to be completed on a regular basis. The results of these tests are published annually and distributed to homeowners in a Consumer Confidence Report. Once the public water supply is confirmed to be potable, the safety and quality of the water after the meter becomes the homeowner's responsibility. Use the information below to help you make informed decisions about maintaining the quality of your water.

Three major health concerns are lead, copper and under certain circumstances bacteria.

Lead is a toxic metal now known to be harmful to human health if inhaled or digested can be found in water due to corrosion of plumbing. It is estimated that lead in drinking water contributes between 10 and 20 percent of total lead exposure in young children. Young children, infants and fetuses appear to be particularly vulnerable to lead poisoning.

Copper is an essential nutrient, required by the body in very small amounts. A metal found in natural deposits as ores containing other elements, it is widely used in household plumbing materials. Copper contamination generally occurs from corrosion of household copper pipes. Elevated levels may show up as a bluish-green tint when you fill a tub or basin or as a greenish deposit around fixtures. Copper may potentially cause stomach and intestinal distress, liver and kidney damage, and anemia when people are exposed to it at high levels. If you suspect high levels of copper, you may want to check conductivity levels in your drinking water in addition to a copper analysis.

Lead and copper can be health concerns in public systems. Municipalities are required to test private homes for lead and copper at least annually to check service lines that run to the home for corrosivity. But again, the homeowner is responsible for water quality after the meter. If your home is not on the "sample site plan" set up by the MDEQ, you may test your own water at your expense. Keep in mind that if lead is found you may be required to disclose that information to your water supplier due to the fact that you are part of a public system.

You may want to have your water tested for lead if you own or live in an older home plumbed with galvanized steel or where lead solder or brass pipe fittings containing lead may have been used. You may also see elevated lead levels if you drink softened water that runs through galvanized pipe. Consider that water softened to less than 25ppm may be corrosive and cause leaching of plumbing metals into drinking water.

The following simple steps can be taken to reduce your exposure to lead in drinking water. "Flush" the tap before using the water for consumption. Flushing the tap means running the cold-water faucet until the water gets noticeably colder, usually about 15-30 seconds. Do not drink or cook with water from the hot water tap. Hot water can dissolve lead more quickly than cold water. You must do this with each faucet you are going to use. Taking a shower will not flush your kitchen tap. Once you have flushed the tap, you may want to fill one or more bottles with water and put them in the refrigerator for later use.

Coliform and E. coli bacteria analysis is probably the most common water test done on drinking water. It can test the integrity of the plumbing system and fixtures. A public supply tests for bacteria often. A power outage or loss of pressure may prompt a "boil water notice" until a series of tests assure the absence of bacteria. Just because you receive a notice to boil your water does not necessarily mean bacteria has been found; it is a required precautionary measure taken to protect public health.

Coliforms include a wide range of bacteria that occur in every non-sterile environment. Although coliforms may not be harmful, they are used as an indicator for the possible presence or absence of other bacteria that may potentially be harmful. Coliforms are rather easy and inexpensive to test compared to Legionella or Diphtheria that are costlier and more difficult to test for. Where there are no coliform bacteria, there are no

potentially harmful bacteria present. Even though coliforms are not a health risk, a drinking water source that tests present does not pass EPA Safe Drinking Water Guidelines.

E. coli bacteria is a type of fecal coliform bacteria found in the intestines of animals and humans. It is also naturally found in soil. E. Coli is short for Escherichia coli. Most strains of E.coli are harmless and live in the intestines of healthy humans and animals; although there are two very rare strains that may produce a powerful toxin and can cause illness. Infection often causes diarrhea and abdominal cramps. Usually the person will experience "flu" like symptoms, although frequently no fever is present. Children under the age of five, elderly people and people whose health is weakened (i.e., people who have a long-term illness such as cancer or AIDS) are at greater risk of severe illness.

Even though your water supplier is required to deliver you drinking water that is free of bacteria, there remains the possibility that it is being held in a treatment system within the home.

Aesthetic Issues: Hardness and Iron

Iron is an abundant mineral frequently found as a naturally occurring element in ground water. Iron in drinking water generally has no adverse health effects yet elevated levels may cause diarrhea. Iron may create aesthetic issues such as staining. A brownish-orange color may eventually stain your clothing, the inside of the washer, dishwasher, sinks, bathtubs along with exterior siding and concrete surfaces. There are two forms of iron. Clear water iron (ferrous iron) and red water iron (ferric iron). Clear water iron usually comes out of the tap looking clear and later, after being exposed to the air, turns rusty color. Red water iron comes out rusty colored. To illuminate iron issues, test your raw untreated water. Use your results to shop for a whole house iron filter that is able to handle the amount in your water. Not all iron filters are capable of handling an elevated amount of iron. Find a filter that suits your particular needs based on your test results. Note: Colloidal iron is made up of very fine, suspended particles that may be difficult to filter out.

Iron Reducing Bacteria may exist in the presence of iron. It is a naturally occurring harmless bacterium that feeds on the iron. It is often recognized by black flecks and a stringy, slimy growth inside the water closet of a toilet tank. Because iron bacteria release iron sulfide as a waste product there may also be a sulfur smell associated with it. It proliferates best when water is motionless. It is harmless, but may make the water difficult to consume due to taste and odor.

Hardness (calcium and magnesium) is also referred to as lime. Elevated hardness levels in your water have pros and cons. Hardness is what gives water a desirable taste and health benefits (pro), yet can cause a white scale build-up on fixtures and in sinks, tubs and appliances that can be difficult to remove (con). Minerals on the inside of household

plumbing may protect you from metals that would potentially leach into your water from pipes (pro).

Because there are no health risks associated with iron, iron reducing bacteria or hardness your municipal system may carry these minerals (and bacteria) if pulled from a groundwater source. The decision on whether or not to treat water after the meter remains the homeowner's responsibility.

One option is to soften the hot water only as calcium and magnesium remain soluble in cold water. It is only when the water is heated that it comes out of solution. This allows you to avoid drinking softened water. For more information on health risks from drinking demineralized water see this [World Health Organization publication](#).