

Should you have your water tested?

Whether to have your water tested is a serious question that concerns your health and that of your family. Your water should be safe to drink and acceptable for all other household uses. Contaminated water can cause illness and perhaps even death. In addition, a variety of less serious problems such as bad taste, off-color, odor, and staining of clothes or fixtures are symptoms of water quality problems.

Even water that appears problem-free and crystal clear may not be safe or acceptable. Even so, not all people need to test their water. Testing for all possible contaminants is impractical and unnecessary.

When should you test your water?

Situation	Test
Family members or house guests have recurrent incidents of gastrointestinal illness.	Test for coliform bacteria, nitrate, and sulfate.
Household water plumbing contains lead pipes, fittings, or solder joints.	Test for pH, corrosion index, lead, copper, cadmium, and zinc.
You are buying a home and wish to assess the safety and quality of the existing water supply.	Test for coliform bacteria, nitrate, lead, iron, hardness, pH, sulfate, total dissolved solids (TDS), corrosion index, and other parameters depending on proximity to potential sources of contamination.
You need a water softener to treat hard water.	Before purchase and installation, test for iron and manganese, which decrease the efficiency of cation exchange softeners.
You wish to monitor the efficiency and performance of home water treatment equipment.	Test for the specific water problem being treated upon installation, at regular intervals after installation, and if water quality changes.
Water stains plumbing fixtures and laundry.	Test for iron, manganese, and copper.
Water has an objectionable taste or smell.	Test for hydrogen sulfide, pH, corrosion index, copper, lead, iron, zinc, sodium, chloride and TDS.
Water appears cloudy, frothy or colored.	Test for color, turbidity, and detergents.
Pipes or plumbing show signs of corrosion.	Test for corrosion index, pH, lead, iron, manganese, copper, and zinc.
Water leaves scaly residues and soap scum and decreases the cleaning action of soaps and detergents.	Test for hardness.
Water supply equipment (pump, chlorinators, etc.) wears rapidly.	Test for pH, corrosion index.

Whether you have a public or private water supply, you should have your water tested if the following situations arise:

Public vs. private water supplies

Many homeowners get water simply by turning on the faucet and making a monthly payment to a municipal or other local water system. They use public water supplies in which individual households are connected to the same water system. Public systems draw water from rivers, reservoirs, springs, and groundwater wells.

In private systems, individuals or individual households provide their own systems. Most private drinking water comes from wells, sometimes from springs and ponds.

If your water comes from a public water system, your water is tested regularly for contaminants that are covered by federal and state standards. These contaminants include pathogens, radioactive elements, and certain toxic chemicals. However, some public water supplies may have water quality problems caused by inadequate treatment facilities or distribution systems. Some rural water supply districts do not have enough money to hire trained specialists or to comply immediately with expanding government requirements. In addition, corrosive water or deteriorating household pipes may add contaminants to drinking water after it enters the house.

If your drinking water comes from your own wells, you alone are responsible for ensuring its safety. Routine testing for a few of the most common contaminants is highly recommended. Even if your water supply currently is pure and safe, regular testing can be valuable because it establishes a record of water quality. This record can be helpful in solving any future problems and in establishing or assessing damages to your water supply.

Testing private water supplies

Routine tests

The following testing frequencies are guidelines. Test more often if you suspect a problem with the quality of your water supply.

Once each year

Test for coliform bacteria, nitrate, pH, and total dissolved solids (TDS). The best times to test for these contaminants are during spring or summer following a rainy period. These tests also should be conducted after repairing or replacing an old well or pipes and after installing a new pump.

Every three years

Test for sulfate, chloride, iron, manganese, lead, hardness, and corrosion index.

If a new baby is expected

It is a good idea to test for nitrate in the early months of pregnancy, before bringing the infant

How to take a water sample

For most water tests, follow these steps when collecting a sample:

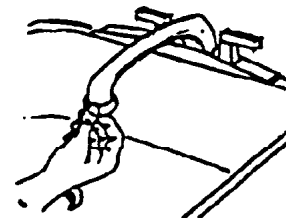
Take the sample close to the pump, before the water goes through a treatment system.

Do not take the sample from a swing-type faucet. Inspect the faucet for leaks. Select another faucet if there is leaking.

Submit the sample within 24 hours of collection.

Transport the sample in a cooler or ship in an insulated container.

Some tests, such as lead, require the water stand in the pipes overnight before taking a sample. Again, follow the instructions provided by the lab or your health department.



Remove the aerator.

home and again during the first six months of the baby's life.

Special situations

Where you live, and what is next to where you live, can sometimes affect the quality of your water. If someone in your family becomes ill or if the taste, odor or color of your water changes, your water supply may be contaminated.

Collecting test samples

Most testing laboratories or services provide their own sample containers. Use the containers and carefully follow the laboratory's instructions for collecting, preserving, and handling water samples. Samples for coliform bacteria testing must be collected in sterile containers under sterile conditions. Some collection procedures call for water to run from an inside tap for several minutes before you fill the sample containers. Other instructions ask you to collect samples in the morning, after water has been confined in the pipes overnight. Samples should arrive at a laboratory within 24 hours of collection.

Steps required for taking a water sample will vary for different tests. Timeliness and cleanliness are important when collecting any water sample. Use the sterile collection bottles the lab sends you and not your own bottles to take a sample. Labs often will only accept samples taken in their collection bottles. Also complete all the forms the lab requires to process the sample.

A water sample needs to be submitted to the lab within 24 hours of collection. In some cases it must be kept cold prior to testing. Care must be taken to prevent anything but the water from contacting the inside of the bottle or the cap. Contaminants are often present in small amounts. Careless sampling prevents accurate test results.

Testing for volatile organic chemicals

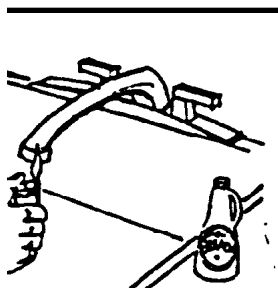
When collecting a sample to be tested for volatile organic chemicals these additional steps should be followed:

- Reduce water flow to prevent excess air in the sample.
- Remove all air from the collection bottle by filling it to almost overflowing.
- Again, timeliness and cleanliness are extremely important to prevent false results.

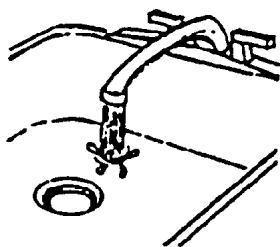
Testing for pesticides

Samples for pesticide testing must be taken so they will not deteriorate or become contaminated before reaching the lab. Contact the lab testing the sample for complete instructions and a collection kit. Specific steps needed when testing for pesticides include:

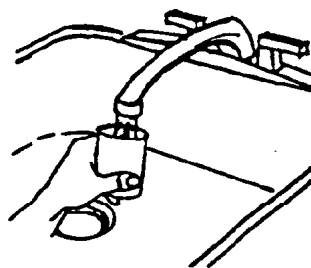
- Collect the sample only in the amber-colored bottle provided. The dark glass prevents light from degrading the sample.
- Cap the bottle with the Teflon-coated lid. The special lid prevents false positive results caused by certain plastics.



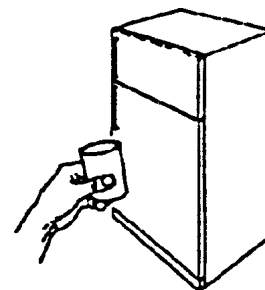
Sanitize the faucet with alcohol or a flame.



Run the water several minutes to clear the line.



Take the sample midstream. Do not touch the sides of the collection bottle, the opening or inside of the cap.



If needed, store the sample in the refrigerator before taking to the lab.

Keep the sample refrigerated, preferably 35°F to 38°F, and submit it to the lab within 24 hours. If shipping the sample, pack the sample in ice and ship in a Styrofoam or other insulated container.

Laboratories may sometimes send a trained technician to collect the sample or to analyze the sample in your home. Ask if this service is available. You may obtain better samples and therefore more reliable test results.

Record all your water test results as a reference for future testing. Even slight changes in contaminant concentrations are good indicators of new water problems. By comparing recent test results with past results, you may discover you need a change in treatment or that a treatment device is working poorly.

Testing services

Public water supply systems are tested regularly for primary contaminants, monitored for levels of sodium and certain unregulated chemical contaminants and examined for corrosion in the water distribution system. They will provide water quality reports upon request.

Private testing laboratories are listed in the yellow pages of the telephone book. Make sure they are certified by your state health department.

County and state health laboratories, departments of health, and local hospital laboratories often provide water testing services.

Water treatment companies and plumbing supply stores may offer certain free tests in your home.

Local engineering firms may test water for certain contaminants.

The University of Idaho offers water testing services.

Be wary of companies offering “free home water testing.” Some of them may be interested only in selling you a water treatment device, whether or not you need it.

Contact the extension educator in your county for information about water testing in your area.

The authors

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Situation	Test
Your well is in an area of intensive agricultural use.	Test for pesticides commonly used in the area, coliform bacteria, nitrate, pH, and TDS.
You live near a mining operation.	Test for iron, lead, arsenic, manganese, aluminum, pH, and corrosion index.
Your well is near a gas drilling operation.	Test for chloride, sodium, barium, and strontium.
Your water smells of gasoline or fuel oil and your well is located near an operating or abandoned gas station or near buried fuel storage tanks.	Test for fuel components or volatile organic compounds (VOC).
Your well is near a dump, junkyard, landfill, factory or dry cleaning operation.	Test for volatile organic chemicals (such as gasoline components and cleaning solvents), pH, TDS, chloride, sulfate, and metals.
Your well is near a road salt storage site or a heavily salted roadway and the water tastes salty or corrosion appears on pipes.	Test for chloride, TDS, and sodium.
You are concerned about radon where you live.	Test for radon.

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