GLOBAL CLIMATE Pledge

Should I Be Testing My Water?

A 'How To' Guide On Clean Drinking Water Testing

FOR HOUSEHOLDS, BUSINESSES, AND GROUPS

Presented by: Global Climate Pledge

Table of Contents

Why Test Your Water?

Why Test Your Water?

It can be difficult to know why, when, or how to get your water tested.

Water testing is impacted by multiple factors.


Local/Federal Regulations


EPA Water Quality Standards


Climate


Location


Infrastructure


Agriculture

Health Impacts

The most pressing reason to test drinking water is the impact on one's health.

Water tests measure the presence of contaminants.

Maintaining health in households, businesses, and groups start with water testing.

It's important to test for both physical and chemical contaminants.

With consumption levels so high, it's necessary to make sure your water is free from contaminants.

On average, each U.S. household uses roughly 300 gallons of water per day

Offices, restaurants, industrial & manufacturing buildings all use high levels of the public water supply

Individuals, households, businesses, & groups are consuming millions of gallons of water

Water Testing Around The World

Water Testing in Poor and Developing Countries

Drinking water in developing countries is rarely tested and monitored because testing has been too difficult, impractical, and way too expensive

Unfortunately, many water quality tests are not designed for low-resource, rural, and remote areas.

These testing methods require laboratories, electricity, expensive equipment, and highly trained analysts.

1

1 in 3 people or 2.2 billion people around the world lack safe drinking water

(WHO/UNICEF 2019)

2

Globally, at least 2 billion people use a drinking water source contaminated with feces

(WHO 2019)

3

2.1 billion people lack water that is accessible on premises, available when needed and free from contamination

(United Nations 2018)

Testing With A Kit

Well Water

Anyone buying a home or business with a private well or installing a new well should run a basic set of tests

It's preferable to have a certified laboratory conduct the tests

Nonetheless, testing private well water supplies with a kit/equipment for contaminants is expensive

It's advisable if you know your well is close to a known or suspected source of contamination

Main Contaminants To Test for

NITRATES

Nitrates are a common contaminant from fertilizers, septic systems, and animal wastes. It often indicates the presence of other contaminants.

BACTERIA

Bacteria, viruses, and parasites can all cause fatal diseases.

LEAD AND COPPER

Lead and copper can be leached into water from pipes or solder and can pose as a significant health threat.

Types Of Tests To Run

ALKALINITY

Measurement needed to determine corrosivity

CONDUCTIVITY

Measures the ability of water to conduct an electrical current; can be used to signal the presence of contaminants.

CHLORIDE

High concentrations often indicate contamination from a septic system, fertilizer, landfill or road salt

HARDNESS

Helps determine the need for water softening; also influences corrosivity. pH. Indicates water's acidity and helps determine if water will corrode plumbing

CORROSIVITY INDEX

A combination of several tests that indicates the tendency for water to corrode plumbing, or for lime deposits to form in pipes.

If you are installing a water treatment device	**TEST FOR:** Any contaminants you are concerned about removing. You will need to know the levels of contaminants present to choose the best treatment device.
If you have copper pipes soldered with lead solder or lead pipes	**TEST FOR:** Lead and copper
If there is an infant or pregnant woman in the home	**TEST FOR:** Nitrate, copper, lead and coliform bacteria before the infant begins drinking the water.
If there is a family illness that could be related to drinking water (such as gastrointestinal illness)	**TEST FOR:** Coliform bacteria and copper. (Consult a physician for medical advice.)
If agricultural chemicals/petroleum products are spilled near your well. or you suspect an accident might have back siphoned these products into the well	**TEST FOR:** The suspected volatile organic chemicals (VOCs) or pesticides.

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If there are noticeable changes in livestock or poultry performance	**TEST FOR:** Compounds measured in the initial water test
If your neighbors find one or more contaminants when they test their well	**TEST FOR:** The same contaminants found in the neighbors' well
If pesticides or fertilizers are applied to fields within 100 feet of your well	**TEST FOR:** Nitrate and pesticides with a scan that includes the pesticides used on the fields
If you live near an active or abandoned solid waste landfill	**TEST FOR:** Volatile organic chemicals, chloride, and chemical oxygen demand
If you notice rust stains on bathroom or kitchen fixtures, laundered clothes, cooking utensils	**TEST FOR:** Iron

Water Testing Kits

Varify 'Complete Drinking Water Test Kit' $27.95

Varify 'Water Hardness Test Kit' $11.95

SJ Wave 16 in 1 Water Test Kit $21.99

Safe Home Premium $199.95

Just Fitter Water Hardness Test Strips $11

Tesing Without A Kit

Without a Kit

At-home testing kits can be very pricey and slow to ship

It's essential to know crucial characteristics about your water to indicate the presence of contaminated drinking water

Look for:

- Color
- Odor
- Taste

Without a Kit 🥛 TIP 🥛

Distilled water can serve as a neutral comparison for testing your drinking water quality

Compare the odor, color, and taste of your tap water to those observed in distilled water samples

If your tap water is 'off' in comparison to the distilled water, your tap supply might be contaminated

This includes a smelly odor, discoloration, and a funky taste

3 At-Home Water Quality Tests

Water Hardness

Boiling Water for Dissolved Solids

Magnifying Glass

Water Hardness Test

Water hardness is the total concentration of dissolved calcium and magnesium solids in a water sample

If you have hard tap water, some of the following may occur:


Low soap sudsing


A chalky dry feeling when you wash your hands or body or when doing the dishes


Soap scum residue


Low water pressure


Chalky stains on dishes, plumbing fixtures, and countertops

How To: Test For Hard Water

1. Dispense tap water into a ladle or large spoon
2. Lay the spoonful of water on a countertop, and don’t disturb it for 24 to 48 hours
3. Once the water has evaporated, look for white spots or sticky residue on the spoon

If there is lingering residue after the water has completely evaporated, you may have hard water in your pipes

Magnifying Glass

This method may seem a bit trivial, but we promise, it has results!

1. Thoroughly clean and dry a clear glass bowl or drinking glass
2. Fill the container with your tap water
3. Place the container in bright light and use a magnifying glass to take a closer look at the water

If you notice floating particles, cloudiness, or foam that lasts more than a few minutes, your tap water could be contaminated

While not all contaminants are visible to the naked eye, it's important to establish a baseline for visual water clarity

Boil Your Water for a Dissolved Solids Test

1. Thoroughly wash and dry a small pot or saucepan
2. Fill the pot with one cup of water
3. Place the pot on your stovetop, heating the water without a lid until it comes to a boil
4. Turn off the heat once most of the water has evaporated
5. Wait for the pot to cool completely

Once you've boiled off the water and waited for the pot to cool, run your fingers along the bottom of the pot

If you feel gritty, sticky, or chalky residue, your tap water most likely contains dissolved solids

This method is accessible to most everyone and is a surefire way to test for water impurities

Case Studies

Water Crisis  Flint, Michigan

The infamous Flint Water crisis that began in 2014 was the result of inadequate treatment and testing of the town's drinking water supply

Health issues were chronically ignored by the government. Residents of Flint experienced high blood-lead levels leading to infertility, itchiness, skin rashes, hair loss, cognitive deficits, and more

Their water was foul-smelling, off-tasting, and discolored; all signs of contaminated drinking water

The Michigan Civil Rights Commission concluded that the poor governmental response to the Flint crisis was a result of systemic racism

Water Crisis  Rajshahi District, Bangladesh

In 2021 a case study was conducted in the Rajshahi District to discover the effects of improper and a lack of water testing in a developing country

The testing for this large metropolitan area was widely unavailable and inaccessible; therefore, the study aims to focus on the suitability of the drinking water quality and update the outdated standards

Manganese levels were found above the standard levels, leading the community to be vulnerable to life-threatening health hazards

The district needs to put emphasis on effective purification, disinfection, and systematic monitoring services for keeping the contamination of water under control

However, without adequate funding and resources, this proves to be extremely difficult to do

10 Worst Countries For Access To Clean Drinking Water

1. **Eritrea** (80.7% lack basic water services)
2. **Papua New Guinea** (63.4% lack basic water services)
3. **Uganda** (61.1% lack basic water services)
4. **Ethiopia** (60.9% lack basic water services)
5. **Somalia** (60% lack basic water services)
6. **Angola** (59% lack basic water services)
7. **Democratic Republic of Congo** (58.2% lack basic water services)
8. **Chad** (57.5% lack basic water services)
9. **Niger** (54.2% lack basic water services)
10. **Mozambique** (52.7% lack basic water services)

Resources

Organizations Helping Developing Countries Access Water Testing Technology

1. The World Bank Water Group
2. Safe Drinking Water Foundation
3. UNICEF
4. Know Your H20
5. Water.Org
6. Water Aid

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Sign the Pledge

Use the QR code or go to www.globalclimatepledge.com to sign the pledge

Share the Pledge

Our pledge helps people move from awareness to action.

Encouraging others to sign establishes a larger community of people who support each other and can make a substantial difference in our environment

Organizational Pledge QR

Individual Pledge QR

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https://usgreenchamber.com/
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