

wellcare[®] information for you about

COPPER & WELL WATER

What is Copper?

Copper is a reddish metal that occurs naturally in rock, soil, water, sediment, and air. It is commonly found in pennies, electrical wiring, and water pipes. It is an essential element for living organisms, including humans. In small amounts, copper is a necessary part of our diet to ensure good health.

Copper occurs in drinking water primarily due to its use in plumbing materials and the subsequent corrosion of copper pipes. Acidic water (very low pH) is associated with the highest levels of copper corrosion. However, there are many other factors that affect the corrosivity of water such as low hardness, high salts and sulfur.

Scientific data indicates that the newer the home, the greater the risk of copper contamination from new pipes. Copper levels can decrease as a building ages. Over time, mineral deposits form a coating on the inside of the pipes, as long as the water is not corrosive. This coating insulates the water from the copper. However, during the five years it takes for this coating to form, water is in direct contact with the copper.

What are the health effects of Copper?

While copper is an essential nutrient, too much copper can cause adverse health effects, including vomiting, diarrhea, stomach cramps, and nausea. Long-term exposure to copper is associated with liver damage and kidney disease in infants under 1 year. People with liver damage or Wilson's disease are more susceptible to copper toxicity. The U.S. Environmental Protection Agency (EPA) set a limit of 1.3 parts per million (ppm) for copper in public water supplies. Well owners are encouraged to use this level as a guideline for when well water should be treated. If your state has a lower maximum level for copper in drinking water, this level supersedes the EPA level and should be used in its place.

If you suspect contamination or experience illness, stop drinking and cooking with the water immediately and do not resume until testing has proven it to be safe to use. Always seek advice from your medical doctor if you have any health concerns.

How do I test for Copper?

Before copper levels are high enough to harm your health, you may notice a metallic taste in your drinking water. You may also notice blue or blue-green stains around sinks and plumbing fixtures. The only way to be certain of the copper level in your drinking water supply is to have the water tested. In addition to copper, you should have your water tested for boron, chloride, hardness, iron, lead, manganese, pH, sodium, sulfates, and zinc. Contact your state or local health department for a list of state-certified laboratories in your area or use [our interactive map](#).

What are the treatments for Copper in well water?

Take the following steps to reduce your household's exposure to copper:

- **Run water for at least 15 to 30 seconds before drinking it, especially if you have not used your water for a few hours**

Refrain from consuming water that has been in contact with your home's plumbing for more than six hours, such as overnight or during your workday. Before using water for drinking or cooking, "flush" the cold water faucet by allowing the water to run until you can feel that the water has become as cold as it will get. You must do this for each drinking water faucet. Taking a shower will not flush your kitchen tap.

Flushing is important because the longer water is exposed to copper pipes, the greater the possible contamination. The water that comes out after flushing will not have been in extended contact with copper pipes.

Once you have flushed a tap, fill one or more bottles with water and put them in the refrigerator for use later in the day. Don't waste the water that was flushed, usually one to two gallons. Use it for non-consumptive purposes, such as washing dishes or clothes or watering plants.

- **Use only cold water for drinking and cooking**

Never cook with or consume water from the hot-water tap. Hot water dissolves more copper more quickly than cold water. If you need hot water, draw water from the cold tap and heat it on the stove or in the microwave. Use only thoroughly flushed water from the cold tap for any consumption. **Boiling water will not remove copper and will only concentrate the contaminant in your water.**

- **Take steps to reduce the corrosivity of your household water**

Well owners can treat their water to make it less corrosive. You should have a comprehensive water test completed first before purchasing any treatment device. Corrosion control devices include calcite filters and neutralizers. Your licensed well contractor or water treatment professional can assist you in finding these products.

- **Consider water treatment to reduce copper in your water**

There are a number of treatment devices available to help reduce copper in water such as carbon, distillation, ion exchange, and reverse osmosis. Treatment systems should be certified by NSF or Water Quality Association (WQA) when available. To find treatment systems that are certified visit [NSF](#) or [WQA](#) websites. It is necessary to maintain treatment devices as specified by the manufacturer or your water treatment professional. You should also retest your water after treatment is installed and after maintenance to confirm the effectiveness of the device. Contact a certified water treatment professional for guidance. To locate a certified water treatment professional in your area, visit [WQA's website](#).

- **Address the presence of copper in your household plumbing.**

Contact a plumber in your area for more information.

For More Information on Copper in Drinking Water

Contact your licensed well contractor, local health department, state environmental agency, or the [wellcare®](#) Hotline.



Information to help maintain and protect your water well system:

[wellcare®](#) is a program of the [Water Systems Council \(WSC\)](#). WSC is the only national organization solely focused on protecting the health and water supply of an estimated 23 million households nationwide who depend on private wells (according to the U.S. EPA).

This publication is one of more than 100 [wellcare®](#) information sheets available FREE at www.watersystemscouncil.org.

Well owners and others with questions about wells and well water can contact the [wellcare®](#) Hotline at 1-888-395-1033 or visit www.wellcarehotline.org to fill out a contact form or chat with us live!

JOIN THE WELLCARE® WELL OWNERS NETWORK!

By joining the FREE [wellcare®](#) Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit www.wellcarehotline.org to join!