The University of Iowa | State Hygienic Laboratory

Copper Fact Sheet

What is copper?

Copper is a naturally occurring metal found in rocks, soil, plants, animals and water.

How does copper enter drinking water?

Copper can get into drinking water through corrosion of copper pipes or copper-containing faucets, especially if water is acidic. Copper may also enter drinking water from groundwater that is contaminated through mining, farming, manufacturing and wastewater operations.

What is the health impact of copper?

Low levels of copper are essential to human health, but high levels can be harmful. Ingesting high levels of copper may cause nausea, vomiting and diarrhea in the short-term and, over time, may lead to liver or kidney damage. The Food and Drug Administration (FDA) recommends a daily intake of 0.9 milligrams (mg) of copper for adults, and lower intake levels for infants and toddlers.

What are the recommended levels of copper in drinking water?

There are no specific requirements for copper content in private well water. In public water systems, the Environmental Protection Agency (EPA) requires that levels of copper in drinking water be less than 1.3 mg of copper per one liter of drinking water (1.3 mg/L).

How can copper in drinking water be controlled?

If you have copper pipes or faucets, flushing the water system before drinking and cooking can minimize the amount of copper that enters the water. To do this, run the cold water for at least 15 seconds each time the faucet has not been used for six hours or more. Avoid cooking with or drinking hot tap water from copper-containing faucets or pipes, because hot water dissolves copper more readily than cold water. Various in-home treatment systems are also likely to decrease copper levels, including reverse osmosis, distillation or ion exchange. Consult with a treatment specialist to determine the most appropriate treatment device.

Testing for copper in water yields the most accurate results if the sample is collected after pipes have sat unused for at least six hours. *If samples are collected when the water had been used more recently, the metals may have been flushed from the line, which could cause artificially low levels of copper to be reported in the test results. Although water that has been sitting undisturbed for six hours or more is ideal, any sample still provides important information.* ***If copper is detected in any sample, there may be a serious concern.***

References

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March 2019

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