

# IOWA DEPARTMENT OF NATURAL RESOURCES

LEADING IOWANS IN CARING FOR OUR NATURAL RESOURCES

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## ARSENIC IN IOWA'S DRINKING WATER

### **Arsenic occurs naturally**

Arsenic is an element that occurs naturally in sulfide minerals in soil and bedrock formations and has been deposited in the soil and bedrock layers over millions of years. Traces of arsenic are found in groundwater, lakes, rivers and ocean water. Foods like fruits, vegetables and seafood can contain trace amounts of arsenic.

Since arsenic is a natural part of our environment, everyone is exposed to small amounts.

Arsenic in ground water from private wells is not regulated by any federal or state agency and there are no mandatory testing requirements.

### **Public drinking water systems and arsenic**

Arsenic levels above the Iowa and U.S. Environmental Protection Agency's health standard in Iowa's drinking water is an infrequent problem, but it is taken seriously when it occurs. Public water systems are required to perform testing on an ongoing basis to ensure water is safe to drink. Private individuals do not need to test for arsenic if their water is provided by a public water system. Public water suppliers must notify their customers and DNR works with the systems to identify appropriate actions when standards are exceeded.

The Iowa and EPA health standard for arsenic in drinking water is 0.010 mg/L or 10 parts per billion. Of the 1,257 Iowa public water systems required to conduct arsenic monitoring, five systems are currently not in compliance with the arsenic standard. DNR staff is working with those systems as they investigate the various options that will return the systems to compliance.

### **Private wells**

Eight percent of 475 private wells checked between 2006 and 2008 by the University of Iowa study were tested higher than the health threshold for arsenic. Private wells are under the jurisdiction of the Iowa Department of Public Health and county health departments. Health officials encourage private well owners to have their wells tested for arsenic which costs about \$20 per sample.

For private wells, arsenic can be removed with a reverse osmosis type of water treatment system, a distiller, or a filter bed of activated alumina. Because it is not necessary to treat all of the water in a home, treatment needs can be met by installing a "point of use" treatment system at a convenient location at the kitchen sink, or the water tap on the refrigerator and icemaker.

There are also systems that treat all the water entering the house. Information on specific water treatment products is available from the National Sanitation Foundation (NSF) web site at <http://www.nsf.org/Certified/DWTU>. Any water treatment system advertised for sale or sold in Iowa must be registered with the Iowa Department of Public Health (IDPH). Please visit the following IDPH website for more information: [www.idph.state.ia.us/eh/water\\_treatment.asp](http://www.idph.state.ia.us/eh/water_treatment.asp). It is recommended that a licensed plumber install the system. It is important to consult with a water treatment system sales professional to determine what species of arsenic is present in the well water so that the correct system for arsenic removal is purchased. For more information or questions regarding home treatment systems, contact Randy Lane at IDPH, 515-281-5894, [randy.lane@idph.iowa.gov](mailto:randy.lane@idph.iowa.gov).

People who are exposed to arsenic levels significantly above the standard over a period of years can experience a variety of health problems. Individuals who feel they may be experiencing adverse health impacts from exposure to arsenic should be directed to Stu Schmitz, environmental toxicologist with IDPH, at 515-281-8707, [stuart.schmitz@idph.state.iowa.gov](mailto:stuart.schmitz@idph.state.iowa.gov).

### Contact information

For more information about public water systems, contact Diane Moles, (515) 725-0281, [Diane.Moles@dnr.iowa.gov](mailto:Diane.Moles@dnr.iowa.gov). For questions about private wells contact Russ Tell, (515) 725-0462, [Russell.Tell@dnr.iowa.gov](mailto:Russell.Tell@dnr.iowa.gov). Information about arsenic and treatment options is available on the home page of the State Hygienic Laboratory website at [www.shl.uiowa.edu](http://www.shl.uiowa.edu). Search for the booklet, "Well Water Quality and Home Treatment Systems." The EPA also has information about arsenic on its website at <http://water.epa.gov/lawsregs/rulesregs/sdwa/arsenic/index.cfm>.