



# Arsenic in Drinking Water

FACT SHEET SWP-115

March 2015

## What is Arsenic?

Arsenic is a naturally occurring element that has been in rocks since the earth was formed. Not all rocks contain arsenic. In Montana, there are some places where arsenic is associated with the bedrock and in valley fill sediments that have eroded from the bedrock of the adjacent upland or mountainous areas. Arsenic is common in volcanic rock and sediments eroded from volcanic rock.

## Is There Arsenic in My Well Water?

The amount of arsenic in well water varies from place to place. Without testing your drinking water; it is impossible to determine if the water can be considered safe for drinking. In fact, most drinking water contains a range of naturally occurring elements and/or compounds. Historically, few domestic drinking water wells were tested for arsenic. As public awareness about water quality-related health affects increases, more homeowners are choosing to analyze their drinking water for an expanded list of substances including arsenic.

## How Can Arsenic Affect My Health?

Some people who drink water containing arsenic well in excess of the MCL for many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. Children may be more susceptible due to their smaller size. Generally, bathing and showering with water that contains arsenic is not considered to be a health concern as arsenic is not readily absorbed through the skin.

## How Can I Make Sure That My Well Water Is Safe For Drinking?

Testing your well water for arsenic should be your first step. Based on the results, your decision may be to install a treatment system or to find an alternative water source. To find out if you have arsenic in your drinking water, the Montana Department of Environmental Quality recommends that you contact a certified laboratory for cost and "how to sample" information. Arsenic analysis is usually less than \$20 and requires no special collection techniques. To obtain a list of state-certified laboratories, go to the Source Water Protection links page (<http://www.deq.mt.gov/wqinfo/swp/Links.mcp>), click on [Montana Certified Drinking Water Labs](#) under the header labeled "Water Quality". Arsenic is an inorganic element; so be sure to select a laboratory that analyzes for "Inorganics".

If you do have arsenic at a concentration greater than the EPA drinking water standard of 10 micrograms per liter (ug/l), DEQ recommends that you install a treatment system or use bottled drinking water. Neither the EPA nor the state regulates your private drinking water well. But the EPA standard provides a reasonable value to which you can compare your own drinking water quality.

## How Do I Remove Arsenic from my Drinking Water?

Boiling water does not reduce arsenic in water. Arsenic treatment for domestic wells typically uses reverse osmosis (RO), ion exchange, or an iron oxide-based filter. While whole house treatment units are available, homeowners commonly have a point of use treatment unit installed that provides treated drinking water at a separate tap at the kitchen sink. These units are relatively inexpensive to install and maintain. Other constituents in your water such as sulfate, manganese, and calcium carbonate (hardness) may affect treatment options. Following installation of a treatment device; water quality should again be tested to verify the operation of the device. After that, water should be tested at least annually to confirm treatment effectiveness.

Treatment systems may be available from local home and hardware stores or by finding a plumber or water purify & filter equipment installer in the Yellow Pages. Water treatment units can also be purchased from on-line suppliers such as <http://www.thewaterexchange.net/arsenic-water-filters.htm>.

The lowest price unit may not always be the best choice. Be an informed consumer. Be sure to choose a treatment system meets that is tested for effectiveness and provides consumer protection. If you have elevated arsenic in your well, no one will force you to install arsenic treatment system although the installation of treatment is highly recommended. The decision to install and the selection of treatment equipment to remove or reduce arsenic levels in your drinking water supply is your choice. You may wish to consult your physician or health care provider about potential impact to you and your family's health based on the level of arsenic exposure through drinking and cooking water sources.

### Additional Contacts: Where can you get help?

- Montana DEQ Source Water Protection Program. (406) 444-6697
- County Environmental Health Department or Sanitarian's Office under *County Government* listings in the phone book.
- Montana State University Extension Water Quality Program. (406) 994-6589

### References:

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National Ground Water Association Consumer Information Sheets. *Arsenic- What You Need to Know*. <http://www.ngwa.org/Professional-Resources>. 2013

Oregon Health Authority. *Recommendations for Arsenic Removal from Private Drinking Water Wells*. 2012.

Ohio Department of Health. *Arsenic Treatment and Removal for Private Water System Wells*. 2012

