

PLANNING & ENVIRONMENT FACT SHEET

Arsenic in Well Water in Washtenaw County



What is arsenic?

Arsenic is a naturally occurring element commonly found in bedrock, sand and gravel. It has been linked to various illnesses in humans, including cancer.

What are the health effects of arsenic?

Arsenic is a documented human carcinogen and is associated with increased rates of bladder cancer. Based on studies in other countries, long term exposure to levels greater than 300 parts per billion (ppb) of arsenic has caused thickening and discoloration of the skin, stomach pain and nausea, and numbness in the hands and feet. *If you feel that you are experiencing any health affects from arsenic exposure, please consult with your health care provider.*

How are people exposed to arsenic?

The most common way people are exposed to arsenic is through water used for drinking and cooking. People can also be exposed to arsenic by eating certain fish and seafood, or by working with arsenic-containing products. However, drinking water poses the greatest public health threat because arsenic is most toxic when it is ingested. The type of arsenic found in drinking water is also more harmful than that found in fish and seafood. Skin contact with arsenic is considered to be less of a health risk, so it is generally safe to shower, bathe and do laundry in water that contains arsenic.

Public water supplies are routinely tested and treated for arsenic if needed, so arsenic is less of a concern if you have a municipal water supply. However, if you receive your water from a private well, it is important that you test your well and take appropriate action based on your arsenic level.

How does arsenic get into groundwater?

Groundwater is the source of water found underground that supplies wells and springs. Arsenic is present in the earth's crust in varying amounts and dissolves into groundwater. The depth of your well and the presence of sand, gravel, and rock that contain arsenic determine the level of arsenic that enters your home through well water.

What level of arsenic in drinking water is considered safe?

It is impossible to eliminate arsenic completely from the environment. Keeping this in mind, it is best to limit your exposure as much as possible.

Washtenaw County, in accordance with state and federal guidelines, requires that all new onsite water supply systems, and those homes with a drinking water well involved in a property transfer, be tested for arsenic, and that these arsenic results be 10 ppb or less. This is a change from the previous standard of 50 ppb.

Is arsenic a problem in drinking water in Washtenaw County?

Many areas of Southeast Michigan have arsenic levels of concern. It is estimated that 7 - 9% of well water supplies in Washtenaw County have arsenic levels that are above 10 ppb. Although arsenic has been found throughout Washtenaw County, the northern and western portions of the County have the highest percentage of wells testing over 10 ppb.

Beginning in January 2006, if a home is to be built in a known area of arsenic concentration, it will be necessary to drill the well first and have it tested for arsenic **before** starting home construction. These areas are referred to as "well first" areas. Maps of these areas will be available from the County after January 1, 2006.

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How can I test my well water for arsenic?

Arsenic sample bottles are available from the Washtenaw County Western Service Center, located at 705 North Zeeb Road in Ann Arbor. Each arsenic test costs \$17.00. Please call (734) 222-3800 for more testing information.

What if my well water has high arsenic levels?

If you find that you have an arsenic level in your drinking water above 10 ppb, drilling a new well may be the best alternative, but is not a guarantee that the arsenic level will improve. Before taking any corrective action, we recommend collecting two additional samples and taking action if the average of the three samples is above 10 ppb.

In some cases, treatment devices can be used effectively and may be the only available method to reduce arsenic levels. A treatment device can either be designed to treat the water for the entire house or just at the kitchen sink where water for drinking and cooking is obtained. Homeowners must follow manufacturers' recommendations for maintaining arsenic treatment devices, and annual sampling is recommended to ensure the unit is functioning properly. In addition, check references of water treatment contractors to be sure they have experience in successfully installing arsenic treatment devices.

Prior to drilling a replacement well or installing an arsenic removal device, we recommend consulting with a Sanitarian from Washtenaw County Planning & Environment. Call our office at (734) 222-3800 to be connected with the Sanitarian for your township. Keep in mind that a well permit is required prior to drilling any new well.

What is Washtenaw County doing to protect homeowners from arsenic?

Before selling a home in Washtenaw County, an inspection of the well and/or septic system is required. Arsenic testing is required as a part of this inspection. Effective January 2006, any arsenic level over 10 ppb must be corrected by either drilling a new well or installing an arsenic treatment device. If an arsenic treatment device is used, final authorization for sale will not be granted until the name and address of the purchaser is provided to the County. The purchaser will be notified of the need for arsenic treatment prior to closing the property transaction.

In addition, after January 1, 2006 any new or replacement well installation must have an arsenic sample below 10 ppb prior to receiving final approval. The owner must sign an arsenic affidavit if a treatment device is used to obtain the final approval. The County can assist in preparing and notarizing the affidavit.

These requirements are in place to not only protect current and future homeowners from unexpected expense, but also to protect the public from potentially harmful arsenic exposure.

Where can I go for more information on arsenic?



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