

What can I do if there is arsenic in my drinking water?

Water with arsenic is a problem only if you are using it for drinking, preparing food or watering food plants. Exposure through breathing and skin contact is not harmful. For example, there are no known health effects from hand washing, bathing, or washing clothing in water with arsenic.

If an initial test detects arsenic, even at levels below the guideline, it is important to have a second test done to confirm the results. If arsenic is present, then you can either use another source for drinking water or treat the current source.

Chlorination and mechanical filters do not remove arsenic from water. **Boiling water may increase the concentration of arsenic and make the problem worse.** There are several treatment options for removing arsenic including reverse osmosis filters and distillation.

There is no regulatory control over treatment devices for private homes, so you have to be careful to buy one that works for removing arsenic. Look for a treatment device that has been certified by an organization accredited by the Standards Council of Canada (SCC) and meets one of the following standards:

- NSF/ANSI Standard 62 on drinking water distillation systems; or
- Standard 58 on reverse osmosis drinking water treatment systems; or
- Standards 53 on drinking water treatment units – with specific designation for arsenic.

Be sure to operate and maintain your treatment device as per the manufacturer's instructions and test your raw and treated water regularly for arsenic to make sure that the device is indeed working properly.

For more information pertaining to drinking water and other services, visit the Fraser Health website below or contact the Drinking Water Program staff at 1-604-870-7900.

www.fraserhealth.ca/your_environment

Health Protection is responsible for regulating and monitoring many public facilities and those aspects of the environment that have a direct impact on public health. Our mission is "ensuring healthy people and healthy environments".

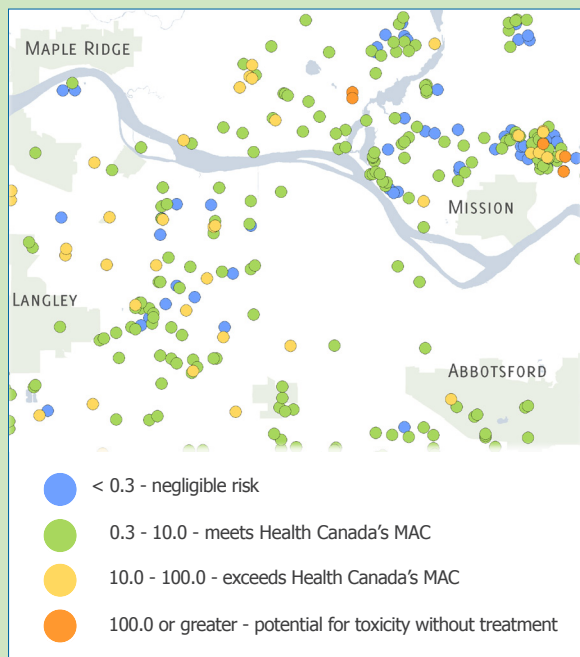
Arsenic in Well Water

Information for Private Well Owners



Drinking water that contains arsenic can have serious short-term and long-term health effects. As you can see on the map, some groundwater in the Fraser Valley is known to contain arsenic concentrations exceeding Health Canada's Maximum Acceptable Concentration (MAC) of 0.010mg/L (10 ug/L or 10 parts per billion). This pamphlet provides information about arsenic, including how to test your well water for arsenic and what to do if arsenic is found in your well water.

Pre-Treatment Arsenic Levels



For a detailed and larger area view of the above Arsenic Map visit the Fraser Health website at: www.fraserhealth.ca/your_environment/drinking_water/resources/private-well-owners/.

How does arsenic get into drinking water?

Arsenic can get into drinking water from natural deposits or runoff from agriculture, mining or industrial processes. In British Columbia, natural minerals are the most common sources of arsenic in drinking water. The amount of arsenic found in groundwater wells is usually higher than that found in surface water supplies such as lakes, streams and rivers.

What are the health effects of arsenic exposure?

Arsenic in water is a concern only if the water is being used for drinking or preparing food. Exposure through breathing and skin contact is not harmful. For example, there are no known health effects from hand washing, bathing or washing clothing in water with arsenic.

However, if you use your water for drinking or preparing food, water that contains arsenic can have serious short-term and long-term health effects, depending on how much arsenic is in your water and for how long you drink it.

Short to medium-term (days to weeks) exposure to very high levels of arsenic (over 200 parts per billion) in drinking water can lead to arsenic poisoning. For an added margin of safety, do not drink water containing 100 parts per billion arsenic or greater.

Symptoms of exposure to high levels of arsenic include stomach pain, vomiting, diarrhea, and impaired nerve function, which may result in 'pins and needles' sensation in hands and feet.

As children tend to drink more water per unit of body weight than adults, they may have more exposure to arsenic in drinking water and may be at greater risk of illness when higher levels of arsenic are present.

Long-term (years to decades) exposure to even relatively low amounts of arsenic in drinking water can increase your risk of developing certain cancers,

including skin, lung, kidney, and bladder cancer. The risk of cancer is the reason for developing the Canadian guideline for arsenic in drinking water. Long term arsenic exposure can also cause skin changes, including darkening, and wart or corn-like growths mostly found on the palms of the hands and soles of the feet.

Health Canada set a Maximum Acceptable Concentration (MAC) of 0.010 mg/L (10 ug/L or 10 parts per billion) for arsenic in drinking water. This level was set based on the ability to treat water practicably to this level. This amount is still linked with a health risk higher than the level considered to be a very minor risk. For this reason people should consider taking precautions with their drinking water even if the arsenic levels are slightly below the guideline.

For more information on arsenic in drinking water and the Guidelines for Canadian Drinking Water Quality visit the Health Canada website at www.hc-sc.gc.ca.

How can I find out if there is arsenic in my drinking water?

Any well may contain arsenic or other contaminants. As the well owner, it is your responsibility to test your well water for arsenic and other indicators of water quality.

Arsenic in drinking water has no odour or taste. It is detected by a chemical test that is done only by specialized laboratories. For a list of "Laboratories Analytical" check the yellow pages in the telephone book or contact an Environmental Health Officer in the Drinking Water Program at 1-604-870-7900.

For more information on water testing go to www.healthlinkbc.ca/healthfiles/hfile05b.stm. See file #05b "Should I Get My Well Water Tested?"