Information for private well owners

Know Your Well Water Quality – Fluoride

What is fluoride?

Fluoride is a naturally occurring element found in some rock types. Fluoride is used in some industrial processes, for example, aluminium production. Many foods contain fluoride. Foods rich in fluoride include black tea with 3.7 milligrams per litre (mg/L) and raisins with 2.3 mg/L. https://ndb.nal.usda.gov/ndb/nutrients/report?nutrient1=313&nutrient2=&nutrient3=&&max=25&subset=0&offset=425&sort=f&totCount=526&measureby=g

Fluoride may also be added to consumer products, including dental products such as toothpaste and mouth wash to help prevent tooth decay. Toothpastes may contain 1,000-1,500 mg/L of fluoride but these products are not supposed to be swallowed.

How can fluoride get into my well water?

Fluoride occurs naturally in groundwater. Natural concentrations vary widely from area to area across Ontario, depending primarily on the geology, but also influenced by the chemical properties of groundwater. Elevated concentrations of fluoride are often associated with the mineral fluorite in limestone and dolomite bedrock, as well as with soft water found in shale bedrock and clay soils.

Can fluoride in well water affect me or my family's health?

According to Health Canada the optimal level of fluoride in drinking water to promote dental health is 0.7mg/L. Fluoride may be added to community drinking water where naturally occurring fluoride levels are below 0.7 mg/L.

Too much fluoride increases the risk of dental fluorosis in children, a condition that affects the appearance of teeth and can result in small white flecks to larger white markings on teeth. Fluorosis occurs while the tooth is forming below the gums (usually during the ages of 0-6 years) and not after the tooth is exposed in the mouth. Mild dental fluorosis is a cosmetic condition and does not affect children's health.

Consuming very high levels of fluoride over a long period of time can result in skeletal fluorosis, a disease with symptoms similar to arthritis. These symptoms may include difficulty moving and joint pain. This condition may come from long-term consumption of drinking water with very high naturally occurring levels of fluoride, well above the levels that have been found in Ontario groundwater.

Are there standards for fluoride levels in drinking water?

Ontario's drinking water standard for fluoride is 1.5 mg/L. Levels above 1.5 mg/L must be reported to the local Medical Officer of Health.

How do I know how much fluoride is in my water?

In drinking water, fluoride has no taste or odour. It can only be detected through chemical testing.

Have your well water tested by an accredited laboratory to find out how much fluoride, if any, is in your well water. A list of laboratories licensed to perform drinking water tests in Ontario is available at: https://www.ontario.ca/page/list-licensed-laboratories. The laboratory can provide you with a sample bottle and instructions on how to take a sample.

You should test your well for fluoride:

- At least once to determine if fluoride is present in your well water.
- Regularly, if your well's fluoride levels are near the drinking water standard.
- Every three (3) years in areas known to have elevated levels. See the question below "How do I know if high fluoride levels have been found in well water in my community?"
- If you have a treatment system to remove fluoride from your water, test the treated water annually to ensure it is working properly.

What should I do if a high concentration of fluoride is found in my well water?

You are responsible for ensuring your well water is safe to drink.

If your well water has levels of fluoride above 2.4 mg/L, consider installing a filter or treatment system to remove fluoride, or using another source of water for drinking and preparing food. For treatment options, consult with a water treatment professional. Alternate sources of water include bottled water or a public water system.

For more information you can contact your local public health unit. Contact information is available at http://www.health.gov.on.ca/en/common/system/services/phu/locations.aspx.

How can I find out if fluoride has been found in private well water supplies in my community?

To see what provincial information is available on whether fluoride has been found in or around your community you can visit the websites below. If there is monitoring information available near your well location the information can give an indication about the presence of fluoride in the area. If high levels of fluoride are found in your region, your well water could have high concentrations of fluoride and you should test it.

- The monitoring information available at https://www.ontario.ca/environment-and-energy/map-provincial-groundwater-monitoring-network shows approximate locations of provincial groundwater monitoring wells and the information available for each well. The information is based on measurements taken over a number of years. A map based on this monitoring information is attached to this fact sheet.
- The information available at http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth/ambient-groundwater-geochemistry shows approximate

locations and information collected at individual drinking water wells in southern Ontario by the Ontario Geological Survey. The information is based on a single sample at each location.

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