



The drop on water

Potassium

Potassium (K) is an element commonly found in soils and rocks.

Sources

Sources of potassium include

- weathering and erosion of potassium-bearing minerals, such as feldspar
- leaching of fertilizer
- sea water, in areas susceptible to saltwater intrusion

The most common source of potassium in drinking water are water treatment systems, such as ion exchangers (water softeners) that use potassium chloride.

Aesthetic Objective for Drinking Water

No numerical Canadian drinking water quality guideline exists for potassium.

In water, potassium has no smell or colour, but may give water a salty taste.

QUICK FACTS

- Potassium is present in rock and soil.
- The most common source of potassium in drinking water are water softeners using potassium chloride.
- Potassium can only be detected through chemical testing.
- No numerical Canadian drinking water quality guideline exists for potassium.
- Potassium is an essential nutrient.
- Potassium in drinking water does not pose a health risk for healthy people.
- Potassium may cause health effects in people with certain conditions.
- If water is softened by potassium ion exchange, you should use a separate, unsoftened supply of water for cooking and drinking.

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Health Risks

Potassium is an essential nutrient for humans. Adverse health effects from exposure to increased potassium in drinking water are unlikely in healthy people.

People with kidney disease or conditions such as heart disease, coronary artery disease, hypertension, diabetes, and those who are taking medication that interferes with the way the body handles potassium may want to discuss concerns related to potassium intake from drinking water with their doctor.

Testing

Regularly test your well water for a standard suite of chemical parameters, including potassium. Use an accredited water testing laboratory. Find a list of accredited water testing laboratories at www.gov.ns.ca/nse/water/waterlabs.asp or see the Yellow Pages under “laboratories.”

Get the special sampling bottles and instructions on proper sampling from the laboratory.

The cost of analyzing water samples can range from \$15 for a single parameter to \$230 for a full suite of chemical parameters. The cost can vary depending on the lab and the number of parameters being tested.

REGULAR TESTING

Homeowners are responsible for monitoring the quality of their well water:

- Test for bacterial quality every 6 months.
- Test for chemical quality every 2 years.
- Test more often if you notice changes in physical qualities – taste, smell, or colour.

Regular testing alerts you to problems with your drinking water.



Solutions

Potassium is an aesthetic parameter. Aesthetic parameters may impair the taste, smell, or colour of water. Although potassium does not pose a health risk for healthy individuals, its presence can indicate deteriorating groundwater quality and could indicate other problems with well water quality, which may cause adverse health effects.

Potassium is present in all groundwater in Nova Scotia. If you notice a significant increase in potassium levels in the well water, investigate the source of potassium in drinking water. Consider the following options:

- Take a sample of water from the well before it is treated. This will help determine whether the source of potassium is the groundwater or the water treatment system.
- If the potassium is from surface sources, such as the leaching of fertilizer, it may indicate the presence of pathogens, or other contaminants present in surface water, which may cause adverse health effects:
 - Test your well water for other contaminants, including bacteria.
 - Inspect the well construction.
 - Consider drilling a new well with proper site selection and construction to prevent contamination.
- Use water conservation measures, particularly in coastal areas, especially in summer months when groundwater recharge is lowest, to reduce the risk of saltwater intrusion.

When the source of potassium does not pose a health risk, treating your water is optional. You may choose to treat your water to improve the taste and make it more pleasing to consume.

When the source of potassium is from surface sources and other contaminants, including bacteria, are present, consider well construction improvements or water treatment options.

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Treatment

We recommend purchasing a treatment system that has been certified to meet the current NSF standards. NSF International is a not-for-profit, non-governmental organization that sets health and safety standards for manufacturers in 80 countries. See its website at www.nsf.org.

Although there are currently no treatment units certified specifically for potassium reduction, effective treatment methods for reducing potassium levels in drinking water include

- distillation
- reverse osmosis

Once a system is installed, re-test your water to ensure the treatment system is working properly. Maintain the system according to the manufacturer's instructions to ensure a continued supply of safe drinking water.

For more information on water treatment, see our publications *Water Treatment Options* and *Maintaining Your Water Treatment*, part of the *Your Well Water* booklet series at www.gov.ns.ca/nse/water/privatewells.asp.

Considerations

If water is softened by potassium ion exchange, you should use a separate, unsoftened supply of water for cooking and drinking.

FOR MORE INFORMATION

Contact

Nova Scotia Environment at
1-877-9ENVIRO
or 1-877-936-8476

www.gov.ns.ca/nse/water/

