

## Water Talk- Barium in drinking water

Health Canada has developed a guideline value for barium in drinking water to protect the health of Canadians. Learn about the health effects of barium and how to reduce your exposure if it is present in your drinking water.

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### Barium in drinking water

Barium is a metal found naturally in the environment. It can be present in:

- air
- soil
- food
- water
- certain consumer products (for example plastics, rubbers, paint, glass, carpets, ceramics, sealants, furniture, fertilizers, and pesticides)

Naturally occurring barium can be found in most types of rocks and can enter surface and groundwater. Barium levels can vary greatly in drinking water in Canada, depending on activities such as mining and manufacturing operations that can release barium into water.

The only way to know if you have elevated levels of barium in your drinking water is to have the water tested. If you are interested in testing your drinking water for the presence of barium, particularly if you have a private well, you should contact your municipality or local public health authority for advice and assistance with the testing.

## Health effects of barium in drinking water

Drinking water that contains high levels of barium may affect your kidneys.

If you have concerns about your drinking water or health, contact your public drinking water authority or public health authority for more information.

## Guideline value for barium in drinking water in Canada

Health Canada worked with provinces, territories and other federal departments to set a new guideline value for barium in drinking water of 2 milligrams per litre (mg/L). The guideline value is protective of the health of Canadians, including the most vulnerable members of society, such as infants and children.

The [Guidelines for Canadian Drinking Water Quality for Barium](#) are based on recent scientific studies and set out the basic parameters that every water authority should strive to achieve in order to provide the cleanest, safest and most reliable drinking water possible.

## How to reduce your exposure to barium in drinking water

If you have elevated levels of barium in your drinking water, there are effective ways to remove it, as described in the next section.

If you have a private well, more information about protecting your well water from contaminants that can make you sick can be found here. Treatment of the water from your well is a good option to reduce your exposure.

Barium will not enter the body through the skin or by breathing in vapours while showering or bathing. Bathing and showering in water that contains barium should not be a health risk.

If you have concerns about your drinking water or health, contact your public drinking water authority or public health authority for more information.

## If you are pregnant, breastfeeding or caring for an infant

If you are pregnant, breastfeeding or preparing infant formula and are concerned about your infant's exposure to high levels of barium in drinking water, you may wish to:

- find an alternate source of drinking water
- install a treatment device to remove barium from drinking water

## Removing barium from drinking water

There are effective household water treatment devices that are certified to remove barium from drinking water at the tap. These include:

- reverse osmosis treatment devices
- ion exchange treatment devices

Make sure that any device you use is:

- certified as meeting the NSF/ANSI standard for barium removal (look at the box or label)
- installed and maintained according to the instructions given by the manufacturer

It is important to make sure treatment devices are maintained (or replaced) according to the instructions provided by the manufacturer.

## Values in other countries

Health Canada has established a health-based value for barium in drinking water of 2 mg/L. This value is comparable to limits established by other countries and organizations.

Some examples of drinking water values in other jurisdictions include:

- Australia: 2 mg/L
- United States: 2 mg/L
- World Health Organization: 1.3 mg/L
- European union has not established a limit

## For more information

- [Guidelines for Canadian Drinking Water Quality for Barium](#)
- If you have questions about the guideline or barium in drinking water, you can contact us at:
  - 1-833-223-1014
  - [hc.water-eau.sc@canada.ca](mailto:hc.water-eau.sc@canada.ca)