ENVIRONMENTAL
Fact Sheet

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

29 Hazen Drive, Concord, New Hampshire 03301 • (603) 271-3503 • www.des.nh.gov

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Beryllium in Drinking Water

Beryllium occurs naturally in New Hampshire's bedrock geology. As such, it can dissolve into water and be present in the water from bedrock (artesian) wells. Beryllium has no taste, color or odor, and thus the only way to determine its presence and concentration in drinking water is by laboratory analysis.

In dug wells, which secure their water from the sand and gravel strata, beryllium concentrations should be generally very low and would not be expected to exceed the MCL.

Health Effects
Beryllium compounds have been associated with damage to the bones and lungs and induction of cancer in laboratory animals, such as rats and mice, when those animals are exposed at high levels over their lifetime. There is limited evidence to suggest that beryllium may pose a cancer risk to humans via drinking water exposure. Therefore, EPA based the health assessment on non-cancer effects with an extra uncertainty factor to account for possible increased risk of cancer. The MCL for beryllium is 0.004 mg/L.

Testing Your Well
The cost of a beryllium test is approximately $20 per sample. If beryllium is determined to be present above quantification limits, NHDES recommends another test to confirm the result. It is recommended that residents in near the regions listed above using a private well for drinking water, test their water for beryllium.

Treatment to Remove Beryllium

The following options may be used to remove beryllium from drinking water.

1) Point of Use Reverse Osmosis (RO)
In the RO process, raw water flows past a membrane. Some of the water molecules migrate through the membrane, while others, including beryllium remain on the raw water side of the membrane. The rejected raw water concentrate is discharged to the wastewater system, which discharges to the leachfield, dry well or sewer. The treated water that migrates through the membrane, accumulates in a small storage tank until needed. A separate dedicated faucet on the kitchen sink provides the treated water at the point of use. The treatment system and associated storage tank may be located

in a cabinet under the sink or in the basement.

2) Ion Exchange
Ion exchange is the generic name for water softening. A typical water softener is effective at reducing the concentration of beryllium in water. Ion exchange is used with whole-house treatment systems.

For More Information
Please contact the Drinking Water and Groundwater Bureau at (603) 271-2513 or dwgbinfo@des.nh.gov or visit our website at www.des.nh.gov.

Note: This fact sheet is accurate as of October 2019. Statutory or regulatory changes, or the availability of additional information after this date may render this information inaccurate or incomplete.