

Sources

Manganese is a naturally occurring metal that is found in Vermont rocks and soils. Manganese dissolves from the bedrock into the groundwater that fills the wells drilled into or close to these rocks.

Some common dietary sources of manganese are nuts, tea, leafy greens and whole grains. Your daily intake of manganese will depend on your food choices and also includes the water you drink.

Health Effects

Manganese is an essential metal required for many metabolic and cellular functions. To avoid deficiencies, small amounts of manganese are added to most vitamin supplements and infant formulas.

Exposure to too much manganese over a long time could harm your nervous system. Studies suggest that infants may be especially sensitive when fed formula made with well water that has high amounts of manganese.

To protect the nervous system, the Vermont Health Advisory for manganese has been set at the Environmental Protection Agency's (EPA's) lifetime health advisory of 0.300 milligrams per liter (mg/l).

Staining

Manganese can be a problem for well owners for two reasons. It can cause a bitter taste, and can cause black stains on plumbing fixtures and laundry. As a general rule, manganese concentrations below 0.050 mg/l will not cause staining or a bitter taste.

Treatment

Water treatment can help remove manganese from your drinking water. You can choose one of these treatments:

- specialty filters which remove manganese as the water flows through the filter; or
- oxidation filtration treatment which uses chlorine, air or peroxide followed by a filter; or
- water softeners

Consult a water treatment professional for specifics. Filter or softener treatments generally include a backwash where the manganese and other impurities are flushed to a household drain. A follow-up manganese water test will confirm that the treatment has resulted in acceptable levels.

For more information:

Vermont Department of Health
Environmental Health Division (800) 439-8550
Laboratory Services (800) 660-9997

Vermont Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
(public drinking water supplies)
(800) 823-6500

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