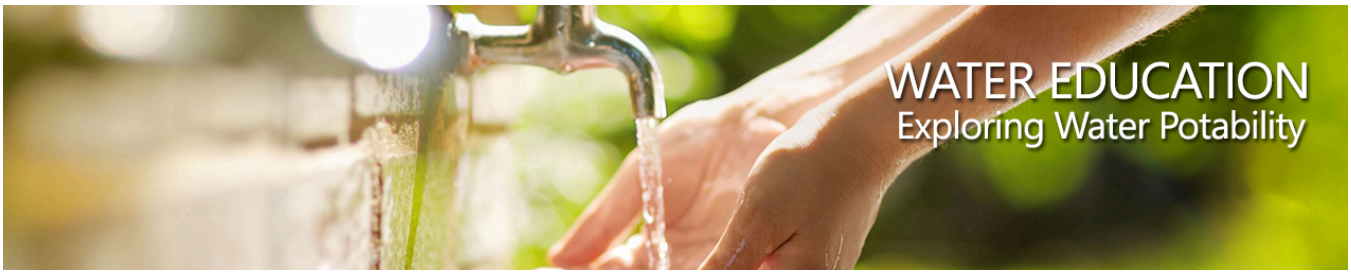

Exploring Potability in Water

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In regards to water, potability is a term which is used in different contexts with varying perceptions of its meaning. It is generally referenced when judging or monitoring a water source in rural areas where no municipal water treatment services are available.

In this article, I explore the term potability and how it is used in different contexts, as well as what general public perceptions are when it is used to describe the quality of water. When the term potability is used it is generally implying that a water source is potable unless otherwise stated.

General Definition
Potable water is defined as: Water that is suitable for human consumption. The term implies that the water is drinkable as well as safe. Drinkable water means it is free of unpleasant odours, tastes and colours, and is within reasonable limits of temperature. Safe water means it contains no toxins, carcinogens, pathogenic microorganisms, or other health hazards.

Health Canada Definition
Potable water is water that is safe to drink. Water is safe to drink when it meets the health-based guidelines set out in Health Canada's document Guidelines for Canadians Drinking Water Quality – Summary Table. This includes microbiological, chemical, physical and radiological parameters.

Municipal Definition
Potable water, also known as drinking water, comes from surface and ground sources and is treated to levels that meet provincial and federal standards for consumption. Water from natural sources is treated for microorganisms, bacteria, toxic chemicals, viruses and faecal matter.

Real Estate Definition
In rural areas, a water sample produces a certificate of potability from an authority having jurisdiction indicating that there is no significant evidence of bacterial contamination.

Public Health Ontario
“Your well water can affect the health of everyone who consumes it. At PHO, we test for the indicators of bacterial contamination”, specifically e.Coli and Coliform bacteria. “We do not test for other contaminants such as chemicals. This means that even if your results show there is no bacterial contamination in your drinking water, it still may be unsafe to drink.”

Personal Experiences

I have personally been involved with a multitude of people who believe that a standard public health unit sample with favourable results is potable water that is safe to drink. This is despite it being a report on only two microbiological parameters with no testing for chemical, physical and radiological parameters which are set out in the Canadian Drinking Water Quality Guidelines.

The term “potable” can have many different definitions depending on the jurisdiction which is governing the quality of water. Public perception of water when it is deemed potable, is generally that it is safe to use and consume. Jurisdictions do not claim that water is free from all contaminants when classified as potable. Public perceptions are commonly in line with the particular jurisdiction which regulates the water for specific contaminants with varying degrees of understanding about the overall water quality.

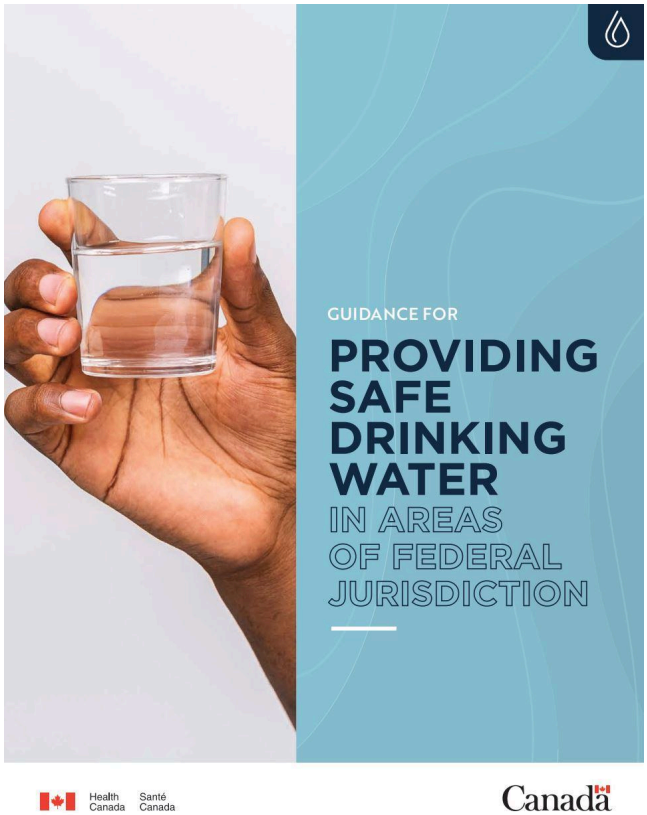
The Definition of Potability is Subject to Broad Interpretation

Canadian Drinking Water Quality Guidelines (CDWQG) Consideration

Total Coliform and e.Coli are the only two parameters tested for in a Health Unit water sample in Ontario, and they can cause illness with severe cases resulting in fatalities.

The CDWQG contains 97 parameters with minimum safety levels of which e-Coli and Total Coliform are only two of those parameters. The remaining 95 parameters are not part of a standard Health Unit water test.

Some of these parameters include Arsenic, Mercury, Nitrate, Copper, Per- and poly-fluoroalkyl substances (PFAS), Trihalomethanes, Lead, Sodium, Chemicals, Microplastics, Pharmaceuticals, Pesticides, Glyphosate and numerous other contaminants which are governed by the CDWQG.



Best Practice Recommendation

Understanding the term “potability” is important to decide what type of water is suitable for drinking in your home, cottage or business. If you are unsure about your water source, consult a certified water treatment professional who can provide you with guidance, recommendations and best practices for proper water treatment.

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