

Ministry of Health

## Small Drinking Water Systems under the *Health Protection and Promotion Act*

# Sampling and Testing

### Working Together to Safeguard our Health

This fact sheet provides basic information. It must not take the place of medical advice, diagnosis or treatment. Talk to a health care professional about any health concerns you have, and before you make any changes to your diet, lifestyle or treatment.

### **Small drinking water systems in Ontario**

The Ministry of Health has oversight of small drinking water systems in Ontario. This fact sheet is to help you become familiar with Ontario's small drinking water system legislation, Ontario Regulation 319/08 (Small Drinking Water Systems) made under the *Health Protection and Promotion Act*. Under this law, you are required to provide users with safe drinking water at all times.

### **What are my responsibilities to monitor, sample and test my small drinking water system?**

Sampling and testing are the only way to know if your small drinking water system contains contaminants from microbiological, chemical, physical or radiological parameters.

Samples from your small drinking water system must be tested at a laboratory that is licensed or approved by the Ministry of the Environment, Conservation and Parks.

To find out more about the regulatory requirements for your small drinking water system, including the sampling frequency, sample location and type of tests required, you should contact the local public health unit to consult with a public health inspector or obtain fact sheets or other information.

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## Do you plan to open or are you currently operating a small drinking water system?

If yes, you should know that it is your responsibility to:

1. **Notify your local medical officer of health** in writing of your intention to operate a small drinking water system following construction, installation, alteration or extension of the system. The medical officer of health will:

- Provide you with an identification number that is specific to your small drinking water system.
- This number will be used for all your laboratory sample submissions and other correspondence related to your small drinking water system.
- Arrange for a public health inspector to conduct a site-specific risk assessment of your small drinking water system and issue a directive including any sampling frequency and testing requirements.

2. **Choose a commercial laboratory** that is licensed by the Ministry of the Environment, Conservation and Parks for testing your drinking water samples.

- Provide the laboratory with the unique identification number for your small drinking water system when submitting your samples using their Chain of Custody form.
- Provide both the laboratory and the local public health unit with your current contact information.
- Provide the name and contact information of the designated operator responsible for your small drinking water system.

## What types of tests will I have to perform for my small drinking water system?

The owner and operator of each small drinking water system must ensure that at least one sample is taken every three months for *Escherichia coli* (E. coli) and total coliforms. Your directive may require you to provide a sample more frequently.

The frequency, number and type of additional tests that you may be required to perform, as outlined in the customized directive issued for your system, will depend on several factors such as:

- The source and quality of the water supply to your small drinking water system.
- The type of treatment methods used in your small drinking water system:
  - You may be required to test daily or several times per week to ensure the drinking water is adequately treated;
  - You may be required to collect samples from several locations in the distribution system depending on the size of the system.
- The presence of chemical, physical or radio-nuclide parameters:
  - You may be required to test your drinking water for the presence of chemical (nitrate or lead), physical (turbidity) or radionuclide (uranium) parameters in specific circumstances.

## **How can I monitor my small drinking water system to keep it operating properly at all times?**

To know whether your treatment methods and maintenance practices are effective, you should develop and implement a monitoring program for your small drinking water system. You should monitor routinely to ensure the drinking water provided to users is safe to drink and, where required, is effectively treated.

## **What steps should I include in my monitoring program?**

### **1. Develop a check sheet**

List all of the items to be monitored, the frequency of monitoring and the sampling location(s), consistent with the directive issued for your small drinking water system.

### **2. Record the activity**

Keep records of all operational activities in accordance with the regulations and any directive issued for your system.

It is important to keep records such as:

- Treatment residual results, laboratory test results, equipment maintenance and other operational requirements, including any adverse results or observations and corrective actions taken.

## How do I choose a licensed laboratory?

Select a commercial lab that is licensed by the Ministry of the Environment, Conservation and Parks to test for E. coli and total coliforms.

For a current list of laboratories licensed to perform tests of drinking water samples, please visit the Ministry of the Environment, Conservation and Parks' website at: [www.ontario.ca/document/list-licensed-laboratories](http://www.ontario.ca/document/list-licensed-laboratories) or call the Ministry of the Environment, Conservation and Parks' Public Information Centre at: 1-800-565-4923.

## How do I prepare water samples for testing at a Ministry of the Environment, Conservation and Parks licensed laboratory?

Take the drinking water sample from any tap after the water has entered the distribution or plumbing system – preferably from a cold-water tap used by the public for drinking purposes.

Before you collect your samples, contact the laboratory that you will be sending your samples to for testing. Follow the sampling instructions provided by the lab.

## What should I know about collecting water samples?

### 1. Collect samples in appropriate bottles given to you by the laboratory

These bacteriological sampling bottles have tamper-proof seals. Do not use the bottle if the seal has been broken; ask the lab for a new one.

- Remove any aerators, tap screens, hoses, or filters on the tap.
- Wash your hands or use disposable gloves.
- Use an alcohol swab to clean the mouth of the tap before collecting the sample. Do not flame the tap.
- Let the water run cold for at least two minutes before collecting the sample.
- Do not rinse the sampling bottle before using (or you will remove some or all of its preservative).
- Do not touch the inside or lip of the sampling bottle and its cap (otherwise you may contaminate your sample).
- The inside of the cap and container should only come into contact with the air and the collected sample of drinking water.

- Fill the sampling bottle to the shoulder, leaving an air space. Do not allow the water to overflow.

## **2. Submit to laboratory shortly after collecting**

Drinking water samples should be submitted to the licensed lab within 24 hours. If this is not possible, check with the lab to discuss any alternate arrangement that might be appropriate.

The earlier the lab gets your drinking water sample, the quicker it can be tested and the more accurate your test results will be.

Ship the sample early in the week to avoid having your sample sit in the lab over the weekend before testing.

## **3. Keep sample cold (e.g. refrigerate but do not freeze)**

If you are delivering the sample yourself, make sure it is packed in ice as soon as it is collected. If you are using a courier service, make sure you ship your sample bottles or containers to the lab in coolers, or in foam pack containers with ice or ice packs.

Do not pack the bottles with loose ice as this may contaminate the sample. If you only have loose ice, encase it in waterproof packaging or a sealed container.

Do not allow samples to freeze. In winter, you may want to take advantage of heated shipping offered by some courier companies.

Complete the lab's Chain of Custody form and send it to the lab along with the collected sample. If sending it inside the cooler containing the sample, ensure that the form is enclosed inside a waterproof package (e.g., a new zip-lock bag).

Note: The reliability of your drinking water test results depends on the proper collection, storage and transportation of the sample. You must control all factors that may affect the accuracy of test results so that the drinking water sample to be tested is representative of your small drinking water system.

## **How do I interpret my water sample test results?**

The lab report should provide detailed information on the type and levels of contamination in your drinking water. It should also identify any contaminants that exceed the Ontario Regulation 169/03 (Ontario Drinking Water Quality Standards).

If your drinking water sample is an adverse water quality test result, the lab will notify you and the local public health unit immediately by phone. This will allow you to take the necessary action to address the issue that caused the adverse condition. In addition, the lab will fax the Adverse Water Quality Incident notification form to the appropriate contact at the small drinking water system and the local public health unit.

For assistance in dealing with adverse results (or exceedences), please contact the public health unit at your local health unit. The contact information for local health units can be found on the Ministry of Health website at:

[www.ontario.ca/page/public-health-unit-locations](http://www.ontario.ca/page/public-health-unit-locations)

## Where can I find additional information?

### Please remember...

This fact sheet is only a summary of your responsibilities as the owner or operator of a small drinking water system and is not a substitute for legal advice.

For a more complete understanding of your legal responsibilities as an owner or operator, refer to Ontario Regulation 319/08 (Small Drinking Water Systems) or any directives issued on your system.

In addition, you should become familiar with the procedure documents produced to help you efficiently operate a small drinking water system:

- Procedure for Disinfection of Drinking Water in Ontario:  
[www.ontario.ca/page/procedure-disinfection-drinking-water-ontario](http://www.ontario.ca/page/procedure-disinfection-drinking-water-ontario)
- Procedure for Corrective Action for Small Drinking Water Systems that are Not Currently Using Chlorine [Consult your local public health unit for this resource.]

### You may also find additional information on the following Ontario ministry websites:

Acts and Regulations: [www.ontario.ca/laws](http://www.ontario.ca/laws)

- Ontario Regulation 319/08: [www.ontario.ca/laws/regulation/080319](http://www.ontario.ca/laws/regulation/080319)

Ministry of Health: [www.ontario.ca/health](http://www.ontario.ca/health)

- Current list of local public health units:  
[www.ontario.ca/page/public-health-unit-locations](http://www.ontario.ca/page/public-health-unit-locations)

Ministry of the Environment, Conservation and Parks:

[www.ontario.ca/page/ministry-environment-conservation-parks](http://www.ontario.ca/page/ministry-environment-conservation-parks)

- Current list of licensed laboratories: [www.ontario.ca/page/list-licensed-laboratories](http://www.ontario.ca/page/list-licensed-laboratories)

Ministry of Agriculture, Food and Rural Affairs:

[www.ontario.ca/page/ministry-agriculture-food-and-rural-affairs](http://www.ontario.ca/page/ministry-agriculture-food-and-rural-affairs)