

**Information below is derived from Nova Scotia Environment Guidelines
Monitoring Public Drinking Water. Dated: December 12th. 2005.**

Instructions for Boiling and Disinfecting Tap Water During a Boil Advisory

During an advisory, it is essential that all water to be used for the following activities be boiled:

- 1) drinking;
- 2) preparing infant formulas;
- 3) preparing juices and ice cubes;
- 4) washing fruits and vegetables;
- 5) cooking; or
- 6) dental hygiene.

Holding water at a rolling boil for at least 1 minute will inactivate all waterborne pathogenic micro-organisms. Water can be boiled either in a pot or kettle on a stove, an electric kettle without an automatic shut-off or in a microwave oven. If water is boiled in a microwave, it is advisable to include a glass rod or wooden or plastic stir stick in the container to provide nucleation sites for bubble formation and energy diffusion. This will prevent the formation of superheated water.

Under most circumstances it is not necessary to boil water used for other household purposes. Adults, adolescents and older children may shower, bathe or wash using tap water but should avoid swallowing the water. Toddlers and infants should be sponge bathed. In non-outbreak situations, dishes and laundry may be washed in tap water, either by hand or by machine.

In the event of a waterborne outbreak as declared by the Medical Officer of Health, it may be necessary to advise the public to take additional precautions. In this situation, hands should be washed in a dilute solution of household bleach and water (1 mL or 20 drops per litre of water). This is particularly important before preparing or eating meals, and after using the toilet, changing diapers, and handling animals. The solution should be allowed to stand 10 minutes before use. If dishes are hand washed they should be washed and rinsed in hot tap water, soaked in a dilute solution of household bleach (20 mL of bleach in 10 litres of water) for one minute and air dried. Alternatively, dishwashers with a hot water cycle will disinfect dishes.

Additional instructions for businesses, institutions, manufacturing plants or health care facilities that may have special requirements when a boil water advisory is in effect are provided herein.

Users That Must Take Particular Precautions During A Boil Advisory

a) Commercial Establishments (Restaurants, Hotels, Convenience Stores, etc.)

- All water that is to be provided directly to customers for drinking purposes must be treated by boiling the tap water for at least 1 minute and then storing the water in clean, covered containers until used for serving. An alternative to this would be using commercially available “bottled water” from a supplier who is a member of the Canadian Bottled Water Association (CBWA) or the International Bottled Water Association (IBWA). Commercial coffee machines that achieve boiling temperatures as part of their design are exempt (see Notes).
- All foods (e.g. fruits and vegetables) that need washing are to be rinsed or soaked in tap water that has been boiled for at least 1 minute. An alternative to this would be using commercially available “bottled water” from a supplier who is a member of the Canadian Bottled Water Association (CBWA) or the International Bottled Water Association (IBWA).
- Tap water used as an ingredient in any food product that will be “ready to eat” without cooking (e.g. drink mixes, pudding, jellos, etc.) must be boiled for at least 1 minute. An alternative to this would be using commercially available “bottled water” from a supplier who is a member of the Canadian Bottled Water Association (CBWA) or the International Bottled Water Association (IBWA).
- Ensure that food handlers wash and rinse hands in water that has been treated with chlorine bleach.
- It is not necessary for bakeries to boil water that is part of a recipe or ingredient in a product that is to be baked. Water for other uses must be boiled.
- Disconnect ice machines and discard any ice and crushed ice products that has been made from this ice. All ice used during the boil water advisory must originate from tap water that has been boiled for at least 1 minute or from a commercial ice supply distributor. Ice machines at the establishment must be emptied and not used for the duration of the boil water advisory. Lines to ice machines must be disinfected prior to reuse.

All soft drink beverage lines connected directly to tap water for mixing must be disconnected for the duration of the boil water advisory. Use bottled water or canned beverages exclusively. Lines to soft drink canisters must be disinfected prior to re-use.

- Disconnect water vending machines unless the water is treated by an approved method. Disinfect lines prior to re-use.
- Disconnect vegetable spraying/sprinkler supplies. Disinfect lines prior to re-use.
- Commercial dishwashers that use hot water 82°C or above are considered satisfactory. Beverage glass washers that utilize a “cold” water rinse must not be used unless the rinse water can be changed to use hot water 82°C or above. For manually washed dishes, it is important that the sanitizer concentration be a minimum of 100 parts per million of chlorine. It is also important that dishes are allowed to air dry. Do not rinse with tap water.
- Substitute boiled/cooled water for tap water in all other uses in the kitchen such as washing and sanitizing cutting boards, counter tops, etc.
- All employees reporting that they are suffering from a diarrheal illness must be excluded from work and should be tested by their family doctor. They are not to return to work until symptoms have subsided. Good hand washing should be emphasized for all staff.

Notes:

Commercial coffee brewers generally operate at a brew temperature of 88°C - 90°C with this temperature being thermostatically maintained in the water tank. Brewing is achieved by displacement of the hot water with cold water within the tank. The temperature attained by the hot water will control bacterial and protozoic organisms of concern during a boil water advisory.

The temperature of the water should be verified using a metal stem probe thermometer by running a full cycle of the brewer with water, taking the temperature at a point below the funnel when the decanter is half full. The temperature at this point should be 72°C or higher.

The decanter used for filling the brewer with water should not be used for receiving the coffee before being washed and sanitized

This exemption is not applicable to non-commercial or domestic type coffee brewers as there may be wide variations of temperatures in these machines.

Upon rescinding of a boil water advisory:

- Re-start and flush any water-using fixture or piece of equipment in accordance with the manufacturer's specifications. This may vary from fixture to fixture. Consult your facility engineer and/or manufacturer when restarting the equipment.
- Managers of large buildings with water-holding reservoirs should consult with their facility engineer about draining the reservoir.
- Follow the directions of your water utility or, as general guidance, run cold water faucets and drinking fountains for 3 minutes each.
- Run water softeners through a regeneration cycle.
- Drain and refill hot water heaters if set at a low temperature (below 64.2°C) taking all necessary precautions to avoid electrical shocks.
- Consult your facility engineer regarding pool and/or whirlpool operations.

b) Food Production

- Dairy Plants - The contaminated water must not contact products following the pasteurization procedure and water used in clean-in-place procedures and in cleaning of product related equipment must be properly chlorinated.
- Bottling Plants - Pre-superchlorination and chlorine removal must be a part of production procedure.
- Ice Making - It is prohibited to make ice for domestic purposes or for cooling or preservation of food for the duration of the boil water advisory unless the water has undergone proper treatment to inactivate microbial pathogens.

c) Hospitals, Clinics, Long Term Care Facilities, Nursing Homes, etc.

Boil water or use an acceptable alternate potable water supply in all applications of tap water intended for human consumption or treatment procedures where a risk of infection is possible. **Assess all water usage in consultation with infection control personnel.**

- Patients and employees should not consume tap water that has not been disinfected, ice or drinks made with tap water that has not been disinfected, or raw foods rinsed with tap water that has not been disinfected.
- Disconnect ice machines and discard any ice and crushed ice products that has been made from this ice. All ice used during the boil water advisory must originate from tap water that has been boiled for at least 1 minute or from a commercial ice supply distributor. Ice machines at the establishment must be emptied and not used for the duration of the boil water advisory. Lines to ice machines must be disinfected prior to re-use.
- For other food preparation and hand washing guidance, refer to the information provided under the "commercial establishments" (see Appendix F, Section a).
- Disinfect water by:
 - Boiling at a rapid, rolling boil for 1 minute; or
 - Filtering through a reverse osmosis filter, an "absolute 1 micron" filter.

An alternate to this would be using commercially available "bottled water" from a supplier who is a member of the Canadian Bottled Water Association (CBWA) or the International Bottled Water Association (IBWA).

- All employees reporting that they are suffering from a diarrheal illness must be excluded from work and should be tested by their family doctor. They are not to return to work until symptoms have subsided. Good hand washing should be emphasized for all staff.
 - Restrict burn patients and patients with open sores or wounds from whirlpool treatments.
 - Monitor patients closely for signs and symptoms of gastrointestinal illness.
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- Sanitize dishes by washing in dishwashing machines that have a hot water cycle at 82 °C or above. For manually washed dishes, it is important that the sanitizer concentration be a minimal of 100 parts per million of chlorine. It is also important that dishes are allowed to air dry. Do not rinse with tap water.

Notes:

Renal dialysis units are routinely treated with water using reverse osmosis. This is considered an acceptable treatment process for publicly supplied water under a boil water advisory.

Upon rescinding of a boil water advisory:

- Re-start and flush any water-using fixture or piece of equipment in accordance with the manufacturer's specifications. This may vary from fixture to fixture. Consult your facility engineer and/or manufacturer when re-starting the equipment.
- Managers of large buildings with water-holding reservoirs should consult with their facility engineer about draining the reservoir.
- Follow the directions of your water utility or, as general guidance, run cold water faucets and drinking fountains for 3 minutes each.
- Run water softeners through a regeneration cycle.
- Drain and refill hot water heaters if set at a low temperature (below 64.2°C) taking all necessary precautions to avoid electrical shocks.
- Resume usual bathing practices and care for patients with breaks in the skin.
- Consult your facility engineer regarding pool and/or whirlpool operations.

d) Day Care Facilities

Day care facilities in areas where a boil water advisory is in effect should be contacted and advised to use boiled or disinfected water for drinking, preparing infant formulas, preparing juices and ice cubes, washing fruits and vegetables and for all hand washing and dental hygiene.

- Children and employees should not consume tap water that has not been disinfected, ice or drinks made with tap water that has not been disinfected, or raw foods rinsed with tap water that has not been disinfected.
- Disinfect water by:
 - Boiling at a rapid, rolling boil for 1 minute; or

Filtering through a reverse osmosis filter, an “absolute 1 micron” filter.

- An alternate to this would be using commercially available “bottled water” from a supplier who is a member of the Canadian Bottled Water Association (CBWA) or the International Bottled Water Association (IBWA).
- All employees reporting that they are suffering from a diarrheal illness must be excluded from work and should be tested by their family doctor. They are not to return to work until symptoms have subsided. Good hand washing should be emphasized for all staff.
- Sanitize dishes by washing in dishwashing machines that have a hot water cycle at 82°C or above. For manually washed dishes, it is important that the sanitizer concentration be a minimum of 100 parts per million of chlorine. It is important that dishes be allowed to air dry. Do not rinse with tap water.

Upon rescinding of a boil water advisory:

- Re-start and flush any water-using fixture or piece of equipment in accordance with the manufacturer’s specifications. This may vary from fixture to fixture. Consult your facility engineer and/or manufacturer when restarting the equipment.
- Managers of large buildings with water-holding reservoirs should consult with their facility engineer about draining the reservoir.
- Follow the directions of your water utility or, as general guidance, run cold water faucets and drinking fountains for 3 minutes each if they have not been used in the last 24 hours.
- Run water softeners through a regeneration cycle.
- Drain and refill hot water heaters if set at a low temperature (below 64.2°C) taking all necessary precautions to avoid electrical shocks.

e) Dental Offices

- Dentists, in areas where a boil water advisory is in effect, should be contacted and advised to use boiled or bottled water for patients to drink or rinse and for all hand washing.
- It is also recommended that the high/low speed turbines run dry and a hand syringe of boiled water or sterile saline be used for cooling/rinsing the tooth and/or oral tissues.
- Regular hand piece maintenance (i.e. oiling and sterilizing) should continue per the manufacturer's instructions.
- To avoid any potential risk of contamination from the water supply that could occur from and during inadvertent use of dentist equipment with contaminated water during the advisory, dentists are advised to turn off the water supply to their dental units and sinks. If this is not possible, covering or taping the controls or outlets may be indicated (e.g. triplex syringe, water dispenser, cavitron, etc.).

f) Water Vending Outlets (Includes Wine and Beer Vending)

Assess each system individually.