



Community Drinking Water Advisories

Guidance for Schools

What is the purpose of this document?

Community public water supplies (CPWSs) issue a drinking water advisory when evidence indicates the sanitary integrity of the CPWS was significantly compromised.

What triggers a drinking water advisory?

Signs of sanitary compromise are normally detected through regulatory monitoring (Safe Drinking Water Act Total Coliform Rule), observations by a CPWS certified water operator, and/or inspections performed by MDH engineers. When it becomes apparent that a contaminant has entered, or may soon enter, the CPWS, a drinking water advisory is issued.

Situations that might lead to the introduction of contaminants to a CPWS include, but are not limited to infiltration of surface water into a drinking water source, water main breaks, water treatment process failure, low or negative distribution system pressure, flooding, and cross-connection and backflow from a non-potable water source to the distribution system.

How is contamination detected?

MDH requires regular monitoring in CPWS distribution systems for coliform bacteria. These are naturally present in the environment, generally not harmful, and used as indicators that other, potentially harmful bacteria may be present. The presence of total coliform bacteria causes a drinking water sample to be tested for *E. coli*. The CPWS is

required to collect a set of repeat samples from the original sample location as well as upstream, downstream, and distant sites.

If the CPWS suspects chemical contamination, the CPWS immediately notifies MDH.

How does a CPWS respond to contamination events?

An acute Total Coliform Rule maximum contaminant level (MCL) violation occurs when *E. coli* is present in any repeat sample, or when *E. coli* presence in a routine sample is followed by total coliform presence in a repeat sample. It may also occur following the detection of total coliform in routine and repeat samples when an on-site investigation by the MDH indicates significant sanitary defects.

If *E. coli* is detected in the distribution system or a source well, the system must be disinfected. At the same time, the CPWS issues a Boil Water notice.

If the CPWS suspects chemical contamination, the CPWS issues a Do Not Drink or Do Not Use notice. If the chemical contaminant should not be ingested, the CPWS issues a Do Not Drink notice. If the chemical should not be ingested, be inhaled, or come into contact with skin, a Do Not Use notice is issued.

Do I need to disinfect any individual softeners or filters?

Yes, but consult the manufacturer(s) for details.

What potential health effects are associated with contamination?

Biological organisms are among the oldest health threats to drinking water quality and the agents currently responsible for most waterborne diseases. Fecal contamination and/or waterborne pathogens that may cause disease include bacteria, viruses, parasitic protozoa, some algae, and helminths (worms). Most health effects are short-term in nature. These include acute gastrointestinal illness with diarrhea, abdominal discomfort, nausea, vomiting, jaundice, and other symptoms, most cases of which result in mild illness. More severe illnesses caused by waterborne pathogens include hemolytic uremic syndrome (kidney failure), hepatitis, and bloody diarrhea. Also, waterborne pathogen infection can result in chronic diseases such as irritable bowel syndrome, reduced kidney function, hypertension, and reactive arthritis. They may pose a greater health risk for infants, young children, people over age 65, and people with severely compromised immune systems.

Because waterborne pathogens are capable of reproducing in the gastrointestinal tract of infected people, they may be shed in feces for a period ranging from days to weeks, possibly without signs of clinical illness. Such shed pathogens may then infect other people through person-to-person spread, contact with contaminated surfaces, or other means.

If chemical contamination is suspected, a Do Not Use or Do Not Drink notice is issued, and the specific chemicals or health effects may not be known immediately.

Who should be contacted regarding symptoms?

Symptoms described in this document are not caused only by organisms found in drinking water. People experiencing persistent symptoms or who are at increased risk should seek advice about drinking water from their health care providers.

How is the CPWS disinfected?

One of the CPWS responses to biological contamination will be disinfection. In most cases this involves emergency chlorination, which can last for two to five days. In some cases, permanent chlorination may be introduced for the first time.

How should water be used?

In the case of a Boil Water notice, do not drink the water without boiling it first. Bring all water to a rolling boil for one minute and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and food preparation until further notice. Boiling kills bacteria and other organisms in the water.

Do Not Drink or Do Not Use notices require that individuals not drink, or use, the water.

Can ice be made with this water?

In the case of Boil Water, Do Not Drink, and Do Not Use notices, ice should not be made with this water. Use commercial ice made from an establishment that is not affected by the boil water notice. In addition, ice that has already been made or ice produced by an ice maker should be discarded. Ice bins should be washed with water from an approved source and sanitized in place prior to reuse. Sanitation can be accomplished by application of a solution containing approximately one tablespoon bleach per gallon of water for 30 seconds.

Is it advisable to purchase bottled water during this period?

Bottled water is an acceptable alternative.

During emergency chlorination and flushing procedures, can people drink the water?

In the case of a Boil Water notice, yes. However, people concerned about disinfection byproducts (created by chlorine reacting with organic compounds disturbed by the water main flushing process) may choose not to use the water for drinking.

In the case of a Do Not Drink or Do Not Use notice, no, since suspected chemical contamination may be present.

Can the water be treated by using iodine tablets instead of boiling?

In the case of a Boil Water notice, this is technically possible; however, MDH recommends boiling instead, because it is consistently effective.

Will chlorine cause skin to break out?

No. Most people will not have a reaction to the amount of chlorine that has been added to the water however, a few individuals may be extremely sensitive to chlorine and should avoid contact with the chlorinated water.

Why is the water a reddish brown color?

Chlorine added to the water to kill bacteria may also react with the iron that has deposited in the water mains, breaking it loose from the pipes and causing some temporary discoloration of the water. The iron in the water causes a distinctive reddish brown color but does not present a health threat. Flushing faucets will help eliminate the iron residue and associated color problems.

Can the water be used for cooking or making beverages?

In the case of a Boil Water notice, no, not unless it has first been boiled. Any beverage combined with

water from the water supply must be discarded, and beverage dispenser systems directly connected to the water supply, e.g. coffee machines, post-mix beverage dispensers, cannot be used until the boil water notice has been lifted and the beverage lines have been flushed with safe water.

Do Not Drink or Do Not Use notices require that individuals not drink, or use, the water.

Can the water be used for dishwashing?

In the case of a Boil Water notice, yes. Utensils, pots, pans, and dishes may be washed, rinsed, and sanitized by using a commercial hot water or chemical sanitizing dishwashing machine provided the operating temperature and sanitizer concentration meet manufacturer's specifications and are verified by the restaurant operator. Manual washing with a sanitizer approved by MDH at an appropriate concentration for the sanitizer is also possible.

In a Do Not Drink or Do Not Use notice, it is recommended that individuals not use the water for dishwashing.

Can water be used to prepare foods?

No. Use pre-washed fruits and vegetables and thaw foods in the refrigerator.

Can this water be used on plants or gardens with edible plants?

In a Boil Water notice, yes. The disease causing bacteria that may be present in water do not present a threat to plants, and any remaining bacteria would be removed when fruits and vegetables are washed prior to serving.

In a Do Not Drink or Do Not Use notice, the effect on plants is unknown and it is recommended the water not be used on plants.

Is it safe for animals to drink this water?

No, not during a Boil Water, Do Not Drink, or Do Not Use notice. The water is just as unsafe for animals as it is for humans.

Will chlorine in the water harm fish?

Yes. Chlorine will kill many fish found in aquariums and minnows at bait shops.

How can the impact of a drinking water advisory be reduced?

The impact may be reduced by developing site-specific emergency plans, having a plan in place to hold or segregate food that was processed during a drinking water advisory, evaluating the business case for back-up water supplies, considering establishment of mutual support arrangements with

neighboring businesses or a water hauler (see MDH website for more information), and meeting with municipal or local officials to form a mutual understanding of how limited water supplies may be distributed during a drinking water advisory or other water emergency.

Where do I go for more information?

Guidelines on how to lessen the risk of exposure to microbes or chemicals are available from the Safe Drinking Water Hotline at 800-426-4791.

Minnesota Department of Health

<http://www.health.state.mn.us/water>

651-201-4700



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