

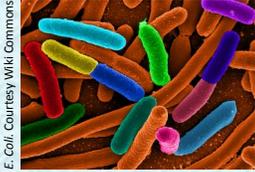


What's In The Water?

Disinfection Procedures for Surface & Well Waters

Brought to you by the State of Alaska Drinking Water Program
For more information, please visit our website at www.dec.alaska.gov/eh/dw

WHAT'S IN THE WATER, AND WHAT CAN IT DO TO ME?



E. coli. Courtesy: Wiki Commons

There may be many things hiding in water, including potentially pathogenic micro-organisms such as bacteria, viruses, and protozoa. Common diseases resulting from infected water include cholera, typhoid fever, gastroenteritis, giardiasis (beaver fever), and cryptosporidiosis. Symptoms of infection can include diarrhea, fever, nausea, vomiting, cramps, discomfort, and in rare situations, death. Water sources that are particularly vulnerable to contamination (especially fecal contamination) are surface water (like lakes and rivers), water from unprotected wells, and water from wells that are too close to a sewage disposal system. To ensure everyone's safety, disinfecting water is a priority.

WHAT ARE COLIFORMS?

Coliforms are a type of bacteria. The most well-known is *E. coli*. Coliforms are present in the digestive tracts of all animals and are found in their wastes. If coliforms are found in water, it indicates that other disease-causing organisms may be present. This could mean contamination from external sources are entering a water system.

WHY IS MY WATER CLOUDY?

Cloudiness in water, also called "turbidity," is caused by suspended particles in the water, such as clay, silt, sand, microbes, and other substances. Turbidity is not a huge cause for alarm; however, turbid water may decrease the effectiveness of disinfection procedures as micro-organisms can be shielded by particles.

COMMON DISINFECTION PROCEDURES

Wells

1. Replace all in-line filters and clean all filter housings.
2. Make sure water softeners are in by-pass mode as most softener resins do not react well to chlorine.
3. In a bucket of water, dilute ½ gallon of unscented bleach that contains 5-6% of sodium hypochlorite.
4. Remove the well's sanitary seal and pour the chlorine solution down the casing. Using a clean hose, run water down the casing until you smell chlorine from the hose. Turn off the hose; replace the sanitary seal.
5. Run each cold water tap in the house one at a time, until you smell the chlorine, then turn off the tap. Do the same for the hot water taps. Flush every toilet until you smell chlorine. This is to ensure that the chlorine solution moves through all of the plumbing.
6. Hold the chlorine in the pipes for a minimum of 2 hours, or preferably overnight.
7. Flush the lines by running all taps, both hot and cold, until you can no longer smell chlorine from any of them. Replace in-line filters again. Your well should now be disinfected.

Changing the filters the first time around will remove possible sources of contamination that are currently in the water. Changing filters a second time will remove anything captured during the disinfection process. This will help ensure that the water is disinfected as much as possible.

Surface Water

Method 1: Boil water for one minute. If it's very cloudy, boil it for three minutes. Allow to cool and store in a clean container. If the water tastes flat, aerate it by passing it between two clean containers a few times.

Method 2: For each quart of water, add two drops of unscented bleach, such as Clorox or Purex (containing 5-6% of sodium hypochlorite), or three drops if the water is cloudy. Mix thoroughly and let it sit for 30-60 minutes before drinking. If you need larger quantities disinfected, check the table below. For reference, ¼ tsp ≈ 16 drops.



Gallons	Bleach
5	¼ tsp
10	½ tsp
15	¾ tsp
20	1 tsp
30	1 ¼ tsp
40	1 ½ tsp



If the water is cloudy, double the dosage.