

Recently the U.S. Environmental Protection Agency reported that 90% of the world's fresh water is contaminated. While Giardia is often considered the primary water safety concern, wilderness studies suggest that many backcountry illnesses are actually caused by bacteria or viruses. Don't let bad drinking water ruin your trip. Always use a drinking water system to protect your health.

A Level 1 purifier is your best protection. Unlike micro filters that only remove most microorganisms, microbiological purifiers eliminate all types of microorganisms from the water including: protozoa, bacteria and viruses.

Why boil or carry water? Pack a lightweight, fast and effective Katadyn® Filter plus the new Katadyn® Micropur Purification Tablets to make sure your water is safe.

What are the risks?

Most outdoor water sources contain microorganisms that can make you sick. Ingesting just one microorganism may cause illness. Wilderness medicine experts advise always treating water to protect against waterborne microorganisms.

Beware of these three types of microorganisms:

Viruses = .018 micron +

Most wilderness medicine professionals now recommend treating water for viruses as well as bacteria and protozoa. Viruses must be eliminated through a purification system or boiling because they are small enough to pass through a filter. Viruses are the least common microorganisms in outdoor water, however they can also be quite dangerous. They are typically too small to be removed by a water micro filter. Ex: Hepatitis A, Polio, Norwalk Virus.

Bacteria = .2 microns +

Bacteria are becoming a significant threat in untreated water. Micro filters remove most bacteria, but smaller bacteria require a very small micron size micro filter or a purifier. Bacteria are common threat in untreated water. Most quality water micro filters remove bacteria from outdoor water. Ex: Cholera, Campylobacter, E coli and Salmonella.

Protozoa = 1 micron +

Protozoa are the most common microorganisms in untreated water. Their relatively large size makes them easy to filter, but their protective shell resists iodine and chlorine treatment. Protozoan cysts are present in most water sources. Their relatively large size makes them easy to filter but their protective shell resists iodine and chlorine treatment. Ex: Giardia and Cryptosporidium.

For reference, the width of a human hair is approximately 80-100 microns.

DRINKING WATER SAFETY GUIDE

	Water System	Microorganisms Eliminated	Microbiological Micron Rating
PROTECTION LEVELS	no. 1 PURIFIER	Eliminates Viruses, Bacteria and Giardia	.004
	no. 2 MICROFILTER	Eliminates Giardia and Most Bacteria	0.2 to 1.0
	no. 3 FILTER	Eliminates Giardia	1.0 to 4.0

Level 1 - Purifiers – the highest level of safety available, purifiers eliminate all microorganisms by combining disinfection with microfiltration.

Level 2 - Microfilters – remove most microorganisms, but do not eliminate viruses.

Level 3 - Filters – remove only Giardia and other larger protozoa.