



*The Katadyn Group is the leading provider of reliable, sustainable, and simple solutions for safe drinking water treatment no matter the location. Whether outdoors, at sea, for emergency preparedness, humanitarian/tactical missions or industrial applications, clean water becomes a reality with Katadyn products.*



## **General Water Filtration & Purification Knowledge**

Standing or flowing bodies of water are referred to as surface water. It is normally a mixture of groundwater and spring and rain water, although it may also contain waste water. Streams, rivers and lakes may contain minerals in widely varying proportions. Because of the numerous organisms living in and around bodies of water, many organic substances can be found in the water. All surface water contains various bacteria, viruses and protozoans.

# THE THREE MAIN CONTAMINATE TYPES AND SIZES

## PROTOZOA (AMOEBAE, GIARDIA, CRYPTOSPORIDIA)

- Animal single-cell organisms, **1 - 15 microns** in size, which like bacteria get into drinking water through animal and human feces
- These hard-shelled parasites form cysts, which lead to acute gastrointestinal diseases in humans
- Common in unfiltered surface water. Have also been found in drinking water (Milwaukee, London, Sydney)
- A single cell is all it takes for an infection



## BACTERIA (E-COLI, SALMONELLA, CHOLERA)

- Single-cell organism **0.2 - 5 microns** in size
- Propagate quickly in warm environments and particularly in water, depending on the supply of nutrients
- Become dangerous if they are mixed with human and animal feces in the drinking water



## VIRUSES (HEPATITIS A, NORWALK VIRUS, ROTA VIRUS, POLIO VIRUS)

- Tiny parasites **0.02 - 0.2 microns**
- Can only propagate in living cells since they do not possess their own metabolism
- Get into drinking water through animal and human feces
- Near populated areas, where wastewater can get into drinking water



# CONTAMINATE SIZE COMPARISON

Membrane Pore	Dissolved Salt Ion	Smallest Virus	Smallest Bacteria	Giardia Cyst	Sand
Green Pea	Olive	Golf ball	Washing Mashine	3-story building	Matterhorn
					

Objects NOT necessarily to scale

# KATADYN OFFERS MANY DIFFERENT OPTIONS FOR MANAGING BACTERIA, PROTOZOAN CYSTS AND VIRUSES

Filter / Purifier	Micro / Ultra / Chemical	Type	KATADYN Product	Microns	Bacteria / Virus / Protozoan Cyst	Capacity	Flow Rate	Retail Price	Other
Filter	Micro	Ceramic	Pocket	.2 microns	Bacteria, PC	50,000 L	1 L / min	\$ 394.95	20 year warranty
			Expedition	.2 microns	Bacteria, PC	100,000 L	4 L / min	\$ 2,199.95	Large Group Use
			Ceradyne	.2 microns	Bacteria, PC	150,000 L	4 L / hr	\$ 449.95	Stationary Base Camp
		Glass Fiber / Ceramic	Vario	.2 microns	Bacteria, PC	2,000 L	2 L / min	\$ 119.95	Carbon Core
			Glass Fiber	Hiker Pro	.2 microns	Bacteria, PC	1,150 L	1 L / min	\$ 99.95
		Hollow Fiber		Hiker	.2 microns	Bacteria, PC	750 L	1 L / min	\$ 89.95
			BeFree	.1 micron	Bacteria, PC	1,000 L	2 L / min	\$ 59.95-44.95	.6L and 1.0L size options
			BeFree Gravity	.1 micron	Bacteria, PC	1,000 L	2 L / min	\$ 134.95-74.95	3.0L, 6.0L, 10.0L size options
Purifier	Ultraviolet	Ultraviolet	Steripen Ultra	.01 micron	Bacteria, PC, Virus	8,000 L	1L / treatment	\$ 129.95	lithium ion rechargeable battery, 3 year warranty
			Steripen Adventurer Opti	.01 micron	Bacteria, PC, Virus	8,000 L	1L / treatment	\$ 119.95	(2) CR123 batteries last for 50 L
			Steripen UltraLight	.01 micron	Bacteria, PC, Virus	8,000 L	1L / treatment	\$ 109.95	Micro USB charge
			Steripen Classic 3	.01 micron	Bacteria, PC, Virus	8,000 L	1L / treatment	\$ 99.95	(4) AA lithium batteries last for 150 L
	Chemical	Carbon Dioxide	Micropur MP1	.01 micron	Bacteria, PC, Virus	1 L	1 L / tablet	\$ 15.95-11.95	EPA registered, only tablet to inactivate Crypto (4 hours)

# What is the difference between a Filter and a Purifier?

## FILTER

### Eliminates Contaminates

The basic idea of filtration is to physically remove sediment, dirt or any particles in the water using a barrier. Mechanical filters can be anything from a basic mesh that filters out large debris to a ceramic filter which has an extremely complex pore structure for ultra-fine filtration of pathogenic organisms.

A filter will usually be given a micron rating which indicates how effective the filters are in terms of the size of the particles it is capable of removing.

Common ratings you might see include:

- 5 micron - Will remove most particles visible to the naked eye.
- 1 micron – Will remove particles which are too small to see without a microscope.
- 0.5 micron - Will remove cysts (giardia and cryptosporidium).

**Activated carbon** is used for its ability to reduce harmful organic and inorganic substances in the water. It reduces unpleasant tastes, odors, chlorine, and various chemicals. These substances adhere to the large surface area of the activated carbon. Activated carbon granulate cannot be regenerated and should be replaced.

## PURIFIER

### Inactivates Contaminates

**Chemical** - Most purifiers use chemicals (such as iodine or carbon dioxide) to kill viruses, which are too small for most filter elements.

**Ultraviolet light** - Another purification method relies instead on ultraviolet light to treat the pathogens. The UV rays rearrange the DNA of the contaminate so that it can't reproduce if it is ingested.

Only for use with clear water; cloudy water must be filtered first. Dirt and sediment are not removed from the water

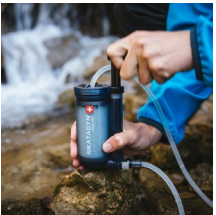
# TYPES OF FILTERS

**Ceramic** - Ceramic filters are long lasting and extremely durable. Easily cleaned and maintained in the field, each filter's microporous structure is combined with impregnated silver to protect the filter membrane. The filter pore size of **0.2 microns** (0.0002mm) filters out bacteria ranging in size from 0.2-5 microns and like protozoa (1-15 microns).



- Effective against microorganisms
  - Suitable for clear to extremely dirty water
  - Ceramic filters can be cleaned and reused several times
  - Filter capacity is measurable
  - Silver added to the ceramic helps protect the filter membrane
- Category includes: Pocket, Pocket Black Edition, Drip Ceradyn and Expedition

**Glass Fiber** - The superfine, flexible glass fiber is pleated, resulting in an extremely large surface area with a very high capacity, providing a fast flow rate with very little effort. Our unique glass fiber filters provide the same Katadyn durability as our ceramic filters, but are lightweight, compact and less susceptible to freezing temperatures – an ideal choice for all-season use. Nominal pore size of **0.2 micron** mechanically filters bacteria and protozoa.



- Low pumping effort with high filter performance
  - Lower initial cost
  - Effective against microorganisms
  - Suitable for clear to cloudy water
- Category includes: Vario, Hiker Pro Transparent & Hiker

**Hollow Fiber** - Hollow fiber technology acts as a physical barrier that prevents pathogens like Cryptosporidium and Giardia from passing through the membrane. Simply shake or swish in water to both clean and extend the life of the filter. Hollow fiber can work in a variety of temperatures and climates. However, the filter can be damaged if left to freeze. The filter pore size is **0.1 microns**.



- Ultralight
  - Lower initial cost
  - Easy cleaning
  - Ultra-fast flow
- Category includes: BeFree 0.6L, BeFree 1.0L, BeFree 1.0L Black Edition, BeFree Gravity 3.0L, BeFree Gravity 6.0L, and BeFree Gravity 10.0L



# PURIFIERS

## Ultraviolet

# SteriPEN®



Katadyn Steripen's water activated UV purifiers quickly and easily purify your water without the use of harmful chemicals. Designed for use when traveling, camping or hiking. The Katadyn Steripen® is ultra-lightweight, compact and rugged. Takes just just 90 seconds per liter to zap viruses, bacteria and protozoa. The Katadyn Steripen's proven reliability means assurance of treatment when and where you need it most.

- Easy-to-use, just press button, place in water, and stir
- Reusable
- Lightweight and small
- Purification (eliminates viruses)
- No chemicals needed (for people who are concerned about harming nature with chemical based products)
- No chlorine taste after purification

Category includes: Katadyn Steripen® Ultra, Katadyn Steripen® Adventurer Opti™, Katadyn Steripen® UltraLight, Katadyn Steripen® Classic 3

# PURIFIERS

## Purification Tablets

**Katadyn Micropur** is a fast, easy-to-use water purification tablet that works quickly to disinfect water. Micropur MP1 inactivates all protozoa, harmful bacteria, viruses, and cysts. It keeps water free from germs, algae and odors. It is the only tablet currently registered by the EPA that effectively controls *Cryptosporidium*. Extensively tested using EPA testing protocols. Used extensively by U.S. Military. Micropur MP1 tablets are a great solution for travelers, or anytime water is clear or filtered, but potability is questionable.



### Chlorine Dioxide

Chlorine is the most commonly used substance for water treatment worldwide. It works quickly and has a broad range of applications. However, chlorine and iodine are not suitable for removal of *Cryptosporidium* and must be applied in the correct dosage. Chlorine Dioxide, as found in Micropur MP1 tablets, is effective against all types of microorganisms, including *Cryptosporidium*, even in the most challenging conditions.

Essential item for any traveler to avoid contaminated water (e.g. brushing teeth, drinking water). Great for use in water bottles and hydration bladders.



# BEST SELLERS!



Katadyn Hiker Pro Clear Microfilter

Katadyn BeFree 0.6 L Water Filter Bottle - 20 fl. oz.

Katadyn Steripen Ultra UV Water Purifier

Katadyn BeFree Gravity Water Filter - 6 Liters

\$89.95

\$39.95

\$129.95

\$109.95

<b>Best Use</b>	Backpacking	Backpacking, Travel, Hiking	Backpacking	Backpacking, Camping
<b>Filter Type</b>	Pump	Bottle	Ultraviolet	Gravity
<b>Filter Medium</b>	Pleated 0.2 micron glass fiber/carbon core/filter protector	Hollow fiber	Ultraviolet light	Hollow-fiber
<b>Removes/Destroys</b>	Protozoa And Bacteria	Protozoa And Bacteria	Protozoa, Bacteria And Viruses	Protozoa And Bacteria
<b>Output</b>	1 liters per minute	2 liters per minute	32 fl. oz. per 90 sec.	2 liters per minute
<b>BPA Free</b>	Yes	Yes	Yes	Yes
<b>Field Cleanable</b>	Yes	Yes	Yes	Yes
<b>Weight</b>	11 ounces	2 ounces	With integrated battery: 4.94 ounces	8.9 ounces

# Prop65 Warning Information

## What does the Prop65 warning attached to my product stand for?

[Proposition 65](#) requires the U.S. state of California to maintain and update a list of chemicals that can cause cancer, birth defects or other reproductive harm. These warnings may also appear in other states or on the Internet, depending on which route the product takes in distribution.

## *Why is there a Prop65 warning on my [Katadyn](#) water filter?*

•Katadyn Pocket, Combi, Expedition, Drip and Vario use a ceramic filter to purify water. Katadyn ceramic is made from natural sediments such as diatomaceous earth. Katadyn has analytically tested the water after it has passed through the filter and we have not detected any lead, arsenic or antimony after using the product. If you follow the instructions for use, there is no risk of exposure. However, the authorities do not test the water that comes out of the filter, but they grind the material and extract the individual, chemical elements from it. Since the material is made from natural sediments, we cannot be sure that the very low metal levels allowed by Proposition 65 will always be met. Trace metals are on the Proposition 65 list because they can cause birth defects or other reproductive harm.

## *Why is there a Prop65 warning on my [Steripen](#) UV pen?*

•Each Steripen contains a germicidal mercury lamp. Mercury is used to produce the UV light needed to kill harmful microorganisms in drinking water. There is no exposure to mercury for the user unless the UV lamp is broken. The UV lamp of the Steripen is covered with a strong glass. In the event of an accident, a person may still break the glass. In this case, exposure to mercury is possible. Mercury and mercury compounds are on the Proposition 65 list because they can cause birth defects or other reproductive harm.

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The Katadyn Group, including Katadyn, Steripen, Optimus & Alpine Aire offer additional training and heavily **discounted employee purchases at [ExpertVoice.com](https://www.expertvoice.com)**.