

# BACK TO THE TAP

For a Healthier Planet

[www.backtothetap.com](http://www.backtothetap.com)

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## HEALING THE PLANET ONE BOTTLE AT A TIME™



The Biological Bottle has a 2-Stage Filtering Process combining our revolutionary Sub-Micron Filter with a Back To The Tap carbon filter. Together they make up the best and most complete filtration system available. The Back to the tap Biological filter, which provides effective filtration of potentially dangerous Lead, Mercury, and Chlorine. The secondary, or 0.2-µm (micrometer) filter further provides for the removal of bacteria and protozoa from water of suspect quality. If used in conjunction with a disinfectant (when viral contamination is suspected), it removes residual species from the water.

### Bacteria

According to the Centers for Disease Control (CDC), water-borne illnesses cause an estimated 4 billion episodes of diarrhea (including a large percentage of cases of 'traveler's diarrhea') and 2 million deaths annually. The most common waterborne bacteria are *Vibrio cholerae*, *Campylobacter*, *Salmonella*, *Shigella*, and *Escherichia coli*. Drinking water is also a carrier for bacteria that cause typhoid, cholera, leptospirosis, and other diarrheic diseases.

The flagellated protozoans *Giardia* and *Cryptosporidium* have been increasingly implicated in water-borne disease outbreaks in recent years. These parasites exist in nature in dormant forms (cysts), which possess a thick wall protecting them from disinfectants. *Cryptosporidium* species, in particular, are especially resistant to disinfectant action because of their thick cyst walls. In addition to filtering out protozoan cysts, the Back To The Tap Biological Filters are also effective in removing free-swimming parasites, including those that cause amoebic dysentery.

### Reliable Filtration

Unlike carbon block filters, which may remove a percentage of bacteria in the water depending

on the flow rate through the filter, the filtration technology in this product is effective under actual use conditions, as verified by independent testing. The hollow fiber bundles used in the Back To The Tap Biological Filter were originally developed for use in kidney dialysis machines, underscoring their reliability. They are effective in filtering particles, which are 0.2-µm in size. In general, the effectiveness of microbial filters depends on the density and uniformity of the filter media. At the expense of filter reliability, less dense filters are able to hold more particulate matter and clog more slowly than those employing a tightly packed medium. Some microbial filters fail due to an inability to precisely control manufacturing operations, and often show filter bypass when the flow rate exceeds even minimal values.

These filters are constructed from a more dense and uniform media, eliminating the possibility of filter breakthrough. The membrane used is manufactured into a bundle of tubes, each less than 0.5 mm in diameter. Therefore, the large surface area inside the hollow fibers, allows filtration of extremely small particles while maintaining a low-pressure system, thereby extending the life of the product. Lower surface area carbon block filters must have larger pores (hence less reliability), or water cannot flow through the filter. The plastic covering that shrouds both filters allows water to enter and pass through both filters, even when the bottle is almost completely empty. Simply squeeze the bottle gently to filter as you drink. Throughout the life of the product, the filter will look clean and functional. The consumer will then rely on changes in the flow rate through the filter to determine when the microbial element needs to be replaced.

- Removes bacteria & protozoan parasites, including *Giardia* and *Cryptosporidium*
- Shown in independent testing to remove over 99.99% of cysts and 99.9999% bacteria at EPA protocol concentrations
- Reliable filtration of 0.2 micron particles
- Replaceable microbial filter element
- Cyst/bacteria element treats up to 80 gallons (284 liters)



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