

## A Guide to Water Filters

### Filtering Tap Water

Many but not all available home water filters remove *Cryptosporidium*. Some filter designs are more suitable for removal of *Cryptosporidium* than others. Filters that have the words "reverse osmosis" on the label protect against *Cryptosporidium*. Some other types of filters that function by micro-straining also work. Look for a filter that has a pore size of 1 micron or less. This will remove microbes 1 micron or greater in diameter (*Cryptosporidium*, *Giardia*). There are two types of these filters – "absolute 1 micron" filters and "nominal 1 micron" filters but not all filters that are supposed to remove objects 1 micron or larger from water are the same. The absolute 1 micron filter will more consistently remove *Cryptosporidium* than a nominal filter. Some nominal 1 micron filters will allow 20% to 30% of 1 micron particles (like *Cryptosporidium*) to pass through.

Filter manufacturers may pay to have their filters tested to see if they remove *Cryptosporidium* or *Giardia*. Filters that have been tested and certified should have wording on their labels indicating they have been listed and labeled to NSF/ANSI Standard 53 or Standard 58 for cyst removal or cyst reduction by an ANSI-accredited certification organization. To find out if a particular filter is certified to remove *Cryptosporidium*, you can look for "NSF 53" or "NSF 58" plus the words "cyst reduction" or "cyst removal" on the product label information. If you chose to use a non-certified product, select those technologies more likely to reduce *Cryptosporidium*, including filters with reverse osmosis and those that have an absolute pore size of 1 micron or smaller.

Because filter testing is expensive and voluntary, some filters that may work against *Cryptosporidium* may not have been tested. If you chose to use a product not labeled "NSF 53" or "NSF 58", select those technologies more likely to reduce *Cryptosporidium*, including filters with reverse osmosis and those that have an absolute pore size of 1 micron or smaller.

Filters designed to remove Crypto (any of the four messages below on a package label indicate that the filter should be able to remove Crypto)

- Reverse osmosis (with or without NSF 53 or NSF 58 labeling)
- **Absolute** pore size of 1 micron or smaller (with or without NSF 53 or NSF 58 labeling)
- Tested and certified to NSF/ANSI Standard 53 or NSF/ANSI Standard 58 for cyst removal
- Tested and certified to NSF/ANSI Standard 53 or NSF/ANSI Standard 58 for cyst reduction

Filters labeled only with these words may NOT be designed to remove Crypto

- *Nominal* pore size of 1 micron or smaller
- One micron filter
- Effective against *Giardia*
- Effective against parasites
- Carbon filter
- Water purifier
- EPA approved (*Caution: EPA does not approve or test filters*)
- EPA registered (*Caution: EPA does not register filters based on their ability to remove Cryptosporidium*)
- Activated carbon
- Removes chlorine
- Ultraviolet light
- Pentiodide resins
- Water softener
- Chlorinated

**Note:** Filters collect germs from water, so someone who is not immunocompromised should change the filter cartridges. Anyone changing the cartridges should wear gloves and wash hands afterwards. Filters may not remove *Cryptosporidium* as well as boiling does because even good brands of filters may sometimes have manufacturing flaws that allow small numbers of *Cryptosporidium* to get in past the filter. Selection of certified filters provides additional assurance against such flaws. Also, poor filter maintenance or failure to replace the filter cartridges as recommended by the manufacturer can cause a filter to fail.

National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) (/ncezid)

Division of Foodborne, Waterborne, and Environmental Diseases (DFWED) (/ncezid/dfwed/index.html)