



# Environmental Health Information

## Point of Use Water Treatment for PFBA

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PFBA (perfluorobutanoic acid) has been detected at low levels in water supplies in the southeast metro area. It is one of a family of chemicals known as perfluorochemicals, or PFCs. PFCs were made by the 3M Company and several other companies around the world for use in household and industrial products.

The level of PFBA detected in area water supplies does not present an immediate health risk. For those who wish to reduce their exposure, recent tests conducted by the Minnesota Department of Health (MDH) shows that water filters with activated carbon (or charcoal) can reduce or remove PFBA from water. Ingestion through drinking or cooking is the primary means of exposure. PFBA is not thought to evaporate and become a problem if someone breathes it in. It is not absorbed easily through the skin. The risk of exposure to PFBA while showering, bathing, or washing dishes is minimal.

### What is activated carbon?

Activated charcoal is made from raw materials (such as coconut shells or coal) that are high in carbon. Heat is used to increase (activate) the surface area of the carbon. The activated carbon removes certain chemicals that are dissolved in water passing through a filter containing activated carbon by trapping the chemical. However, other chemicals, like sodium or nitrate, are not attracted to the carbon and are not removed.

Eventually, the ability of the activated carbon to bind and remove chemicals is used up and new, or regenerated, carbon is needed. Generally, the greater the amount of carbon in the filter, the longer it will last. All water treatment systems require proper installation, periodic monitoring and maintenance.



### What is a “point of use” filter system?

There are two types of activated carbon filter systems: point of use and point of entry. A point of use (POU) filter is installed in the water supply line just before the location where people use the water.

One example is an under-sink unit; water passes through the carbon filter and travels to a separate water tap, next to the main faucet. Water from the separate tap will be treated, and water from the main faucet (hot or cold) will be untreated. Other examples of point of use filters are the water pitcher or faucet mounted filters commonly sold in stores, or activated carbon filters that are a part of a refrigerator's icemaker.

Point of entry or whole house filters are described in a separate information sheet.

### **Do these point of use filters remove PFBA?**

Point of use filters can be an effective way to reduce exposure.

Pitcher filters: Tests recently conducted by MDH staff using tap water that contained low levels of PFBA show that a simple pitcher filter that contains activated carbon was partially effective at removing PFBA from the water. It allows more PFBA to pass through as additional water is filtered.

Faucet-mounted filters: A faucet-mounted filter containing activated carbon worked better, showing full removal of PFBA through half of its manufacturer predicted filter lifetime, and good removal at up to 60%-80% of its manufacturer predicted filter lifetime.

MDH may conduct additional tests to verify these results. While MDH only tested one brand of each kind of filter, other brands appear to be comparable in size and design and should work in a similar fashion (MDH cannot endorse specific products). The filters can be found at many stores, are economical, and are easy to install and operate.

For any type of filter system, consistent maintenance and periodic filter replacement is essential to ensure effectiveness and prevent bacterial build-up. You should closely track water usage, and follow the manufacturer's directions for when to change the activated carbon filter. Some filters have a simple gauge to estimate the amount of water that has been filtered.

It is recommended that any water treatment systems be tested and certified to national standards by a reputable testing laboratory, such as the National Sanitation Foundation (NSF, 1-877-867-3435 or via email at [info@nsf.org](mailto:info@nsf.org)) or the Water Quality Association (WQA, 630-505-0160, [www.wqa.org](http://www.wqa.org)). The Minnesota Water Quality Association ([www.mwqa.com](http://www.mwqa.com)) also has information about water treatment systems. You should hire a licensed water conditioning contractor if you have a treatment system installed. The Department of Labor and Industry licenses water conditioning contractors and installers.

[Note: A reverse osmosis (RO) drinking water system may also remove certain organic chemicals such as PFBA, especially if equipped with pre- or post-filters that contain activated carbon. Check your RO system owner's manual for additional information, or talk to the manufacturer.]

Please contact Tannie Eshenaur (651-201-4897 or [tannie.eshenaur@health.state.mn.us](mailto:tannie.eshenaur@health.state.mn.us)) at the Minnesota Department of Health for additional information.

This information sheet was prepared in cooperation with the federal Agency for Toxic Substances and Disease Registry.