

POINT-OF-USE

Water Quality Report for Consumers

A Joint Publication with the Water Quality Association

Volume 1, No. 3, 1986

Homeowners Can Reduce Lead in Water

There is pressure on the Environmental Protection Agency (EPA) to toughen the standard for the amount of lead allowed in public drinking water.

According to the Water Quality Association, homeowners concerned about the health effects of lead don't have to wait for the government to act.

Reverse osmosis and distillation are proven technologies that any homeowner can have installed at the point-of-use as an effective and economic alternative to drinking contaminated tap water.

Point-of-Use

"Point-of-use" refers to the fact that the water quality improvement device is applied to a single tap and is used for the purpose of reducing contaminants in water at that one tap.

According to an EPA study, lead contamination in water systems results largely from corrosion of pipes and solder. Therefore, it makes sense that the application of water treatment technology at the point-of-use would provide the most effective barrier of protection.

Research has blamed small levels of lead ingestion for a variety of negative health effects.

EPA believes a stricter lead standard would bring about a reduction of chronic adverse effects in the blood system, nervous system, and kidneys. Inappropriate lead levels have also been linked to reduced mental development of children.

The WQA says it has been aware of the leaching problem in plumbing systems and has encouraged its members to avoid the use of lead solder.

The Association recommends that homeowners let the water run for 30 to 60 seconds before consuming it, particularly after the water has been standing in the plumbing system overnight.

It is the first draw of water that is more likely to contain the by-products

of corrosion.

Water used for human consumption (drinking and cooking) accounts for only one-half of one percent of the total community water use of 175 gallons per capita per day.

Therefore, the Association says it does not seem reasonable to require that one hundred percent of water from public water systems be treated to drinking quality.

Ninety-nine and one-half percent of water supplied by public water systems is used for purposes such as sprinkling lawns, flushing toilets, irrigation, fighting fires, cleaning streets, washing cars, laundry, bathing, and industrial uses.

This means that to meet a stricter standard which may be imposed by EPA, over 99 percent of water supplied by public water systems must be treated to a higher quality level than may be necessary or affordable.

Two Technologies Recommended

The two technologies recommended by the Association for lead reduction at the point-of-use — reverse osmosis and distillation — are available to any homeowner today. No one has to wait for the government to tighten lead standards, for bond issues to be passed to finance new public treatment systems, or for construction of new central treatment plants to be completed.

All of that could take years. Homeowners can buy or rent point-of-use water quality improvement products today.

Moreover, by treating water at the tap, point-of-use devices treat water at the point at which Congress directed monitoring to take place under the Safe Drinking Water Act.

The statute, its legislative history, and the EPA's implementing regulations provide that standards are to be met at the consumer's tap.

As the lead issue illustrates, point-

of-use devices are effective in reducing contaminants, such as heavy metals, that may leach into the water in the distribution system *after* it has been subjected to central treatment but *before* it flows from the tap.

WQA Consumer Tips

The Water Quality Association recommends these consumer tips if you are considering the purchase or rental of a point-of-use water quality system or device:

- ▶ Have the quality of your water analyzed by a professional, such as a WQA Certified Water Specialist and/or a reputable laboratory.
- ▶ Research the water quality improvement products available before you buy. Check performance capabilities, warranty, maintenance provisions and general operation.
- ▶ Deal only with a professional, such as a WQA Certified Water Specialist. Check your telephone directory for the WQA Specialist nearest you.
- ▶ Look for a WQA Gold Seal on the POU equipment. It indicates the product meets industry standards.
- ▶ Research the reputation and legitimacy of the company you choose. Check customer references and the Better Business Bureau before you sign a contract.
- ▶ Beware of the salesperson who tries to sell you one product to solve many different water quality problems.
- ▶ Inquire whether the company adheres to the WQA Voluntary Product Promotion Guidelines.

For more information, write Water Quality Association, 4151 Naperville Road, Lisle, Illinois 60532. Telephone number is 312/369-1600.

The WQA is an international not-for-profit trade association of companies that manufacture, sell, and service water treatment products for application at the point-of-use. ■

Consumers Ask . . .

Q. My water is cloudy and it also has an unpleasant taste and odor. What can I do to correct this problem?

A. Several types of point-of-use equipment will effectively reduce these problems.

Mechanical filters are available in a range of sizes. Two of the most common types are one using special graded sand or other granular synthetic material as the filter media and the other using a cartridge filter.

Other methods for reducing turbidity (cloudiness) and improving taste and odor are activated carbon filters, chemical feed pumps, reverse osmosis and distillation drinking water systems.

The determination of which method is most appropriate for your household can best be made by your local WQA member water treatment specialist.

Correction for *Consumers Ask . . .*

Vol. 1, No. 1: The answer should have read: Ion exchange water softening, manganese green sand, oxidation and chlorination.

Disinfection . . .

(continued from other side)

bacterial quality during storage. It is sometimes used in conjunction with other disinfection methods.

Ozonation uses ozone (O_3), an unstable form of oxygen and a strong oxidizing agent to disinfect water. Suitable equipment is just now becoming available.

Reverse Osmosis (RO) removes substantially all suspended and dissolved matter from water, but is not recommended for disinfection.

Distillation may be used for disinfection of appropriate water supplies.

For a complete copy of this study send \$1.00 to Cheryl Bowen, Distribution Agent, Dept. X28-x, Water Quality Association, 4151 Naperville Rd., Lisle, IL 60532.

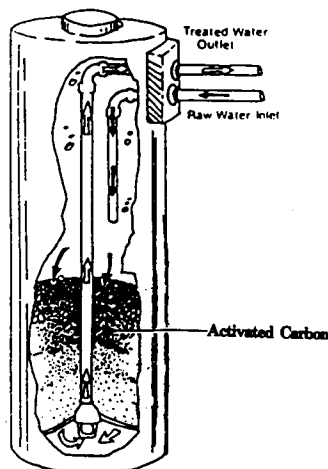
Preliminary Findings

EPA Study Says GAC Filters Safe

A study funded by the United States Environmental Protection Agency, through their Health Effects Research Laboratory, resulted in good news for consumers using granular activated carbon filters.

The partial findings were presented by Dr. Eric Mood, Associate Clinical Professor of Public Health, Yale University, March 15, 1986 at the WQA Annual Convention, Nashville, Tenn.

The study was conducted to answer researchers questions as to whether there is any health significance associated with microbial growths in the beds of granular activated carbon (GAC) used to filter water.



Activated Carbon Filter

The Department of Epidemiology and Public Health, Yale School of Medicine, began the study October 16, 1984, and it is still ongoing.

One of the more common uses for activated carbon is in volatile organics reduction. The concern about the growth of harmful bacteria contaminating the bed of the activated carbon filters, however, led to the U.S. EPA study of faucet mounted and under the sink activated carbon filters.

To determine whether this use posed a threat to the health of persons consuming the water, a study was designed using a population of 592 persons from 153 families residing on a U.S. military base.

Each family residence was supplied with filtered and disinfected water which was determined by the researchers to be potable.

A faucet filter was installed in each

home. Half of the filters had a GAC cartridge while the other half had a blank cartridge. After three months, the process was reversed.

The families kept a monthly diary of all members in the household to record any symptoms of gastrointestinal disease, such as vomiting and diarrhea.

A medical scientist collected the diaries at the end of each month as well as two samples of water from each faucet filter; one sample was of water that had passed through the filter unit and one which did not.

The bacteriological data for the first nine months, which were examined from these water samples, indicated that indigenous bacteria in a water supply can grow to considerable numbers under inactive conditions in the presence of nutrients.

The good news for the consumer is that the five types of bacteria found in the water samples were non-pathogenic, meaning they did not cause water-borne disease.

In fact, the bacteria found had already been noticed in lesser quantities in the tap water before filtration.

The test and analysis performed on the epidemiological data between homes that had a GAC cartridge filter and homes that did not indicated there was no significant statistical difference between the control and test groups.

According to Dr. Mood, it becomes apparent from the data that while indigenous bacteria that exist in a water supply may multiply to relatively large numbers, the growth in an activated carbon filter bed created no significant health effects.

For a complete copy of this presentation, contact Cheryl Bowen, Distribution Agent Dept. EMx, Water Quality Association, 4151 Naperville Road, Lisle, IL 60532.

Water Quality Research Council is a tax exempt research and educational organization.

The purpose of the Water Quality Research Council is to conduct or sponsor basic or fundamental scientific research and public education in the area of water chemistry as it relates to pollution and human or animal health. The Council publishes or causes to be published articles, pamphlets, books, magazines, papers and other educational materials relating to water quality.

This consumer publication is published in cooperation with the Water Quality Association, 4151 Naperville Road, Lisle, IL 60532.