

The Water In Your Life



A guide to
home water problems,
how they occur,
and how they can
be corrected.



ECOWATER
SYSTEMS®



SINCE 1925.

Identifying Common Home Water Problems

While most homeowners may never encounter scary-sounding contaminants like toxaphene and trichlorethylene, there are several common water problems to be on the lookout for in the home.



HARD WATER

Symptoms: Hard water is easy to spot; it leaves a bathtub ring made up of hardness minerals and soap. This scum collects on shower walls, clings to hair, clogs skin pores, and makes house cleaning difficult. Hard water deposits also can clog pipes, cause water heaters to operate inefficiently, and increase maintenance on water-using appliances.

Cause: Hard water is created when water passes through rock formations and picks up calcium and magnesium.

Rx: Water hardness is corrected by the use of a water softener/conditioner. The hard water passes through a tank containing resin beads holding “soft” sodium ions. The “hard” calcium and magnesium ions are exchanged for sodium ions, thus softening the water. When the beads have trapped all the hardness they can hold, the unit is regenerated (recharged) with salt brine to replace the hardness ions with sodium ions. The unit is then ready to soften water again.



IRON WATER

Symptoms: Iron water is easy to detect; it may leave iron stains on sinks, clothing, and linens, or it can form scale in pipes and water-using appliances that make water look and smell bad. A water-testing professional can determine how much iron is present in a home and which type of iron it is:

- Clear water iron – Water is clear when drawn from the tap; it turns red after standing for a time as the iron mixes with the air and oxidizes.
- Red water iron – Water is red when drawn from the tap; the iron has already oxidized in the ground, well, or water system.
- Bacterial iron – Water has slimy rust or yellowish globs in it. The cause is bacteria in the water that feeds on iron. While the bacteria is not harmful to your health, it is unpleasant to look at and can clog plumbing.

Cause: Iron water is created when water passes through iron-bearing rocks in the earth. It can also be caused, usually temporarily, by water standing in iron pipes.

Rx: Small amounts of clear water iron can be corrected by a water softener. Red water iron and larger amounts of clear water iron can be controlled by running the water through a filter containing an oxygen-rich mineral. The mineral oxidizes the iron into solid particles that can then be trapped in the filter and washed down the drain. Extreme amounts of iron are best controlled by using a chemical feed system that puts chlorine into the water to oxidize the iron. To treat bacterial iron, the well and water system need to be “shocked” with heavy chlorination and then maintained by a filter or feed system.

ACID WATER

Symptoms: Acid water cannot be detected by the water's appearance, feel, or odor. Its symptoms, however, are very apparent in the home. Acid water, in conjunction with copper fittings and fixtures, can cause blue-green stains on plumbing fixtures, and eat away chrome faucets, fittings, and pipes. It can etch china and glassware, and corrode water-using appliances. A water-testing professional can test for the degree of acidity in a home's water supply.

Cause: Acid water is caused by water passing through extremely hard rock such as granite or marble. Water, by its nature, wants to dissolve materials through which it passes. If it cannot dissolve the materials, water comes into the home in a "hungry" state and starts eating away everything it

touches. The degree of problems experienced will be determined by the pH scale which measures acidity on a scale of 1 to 14. Water registering below 7 is acidic, at 7 is neutral, and above 7 is alkaline.

Rx: *Slightly acidic conditions can be controlled by running water through a filter tank containing a neutralizing compound. More extreme conditions can be controlled using a chemical feed system that injects a liquid neutralizer into water. Also, a phosphate feeder can be used to coat all water-bearing surfaces with a film that helps eliminate acidic damage.*



TURBIDITY

Symptoms: Turbidity is simply dirt or other suspended materials in water. You can detect turbidity by visual inspection. In addition to being unpleasant to look at, it can clog small water-bearing openings and cause wear on valves, seats, and washers.

Cause: Turbidity is caused by dirt and sand getting into wells, or by run-off of other organic matter into water supplies.

Rx: *Suspended materials in water can be trapped in a tank filter containing a bed of filtering media. Small amounts of turbidity can be handled with a cartridge filter designed for removing sediment from a water supply.*



Identifying Common Home Water Problems

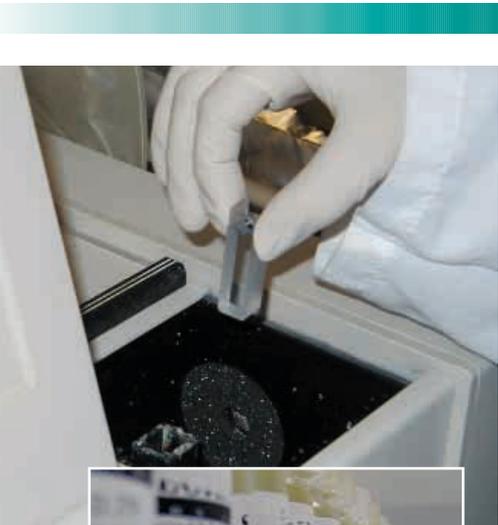


TASTE AND ODOR

Symptoms: Tastes and odors in water do not normally cause physical problems in the home but can be very objectionable.

Cause: Tastes and odors are caused by many things including chlorine, chlorine compounds, decaying organic matter, and dissolved gases or minerals. The presence of hydrogen sulfide, which tastes and smells like rotten eggs or sulfur, is caused by decaying vegetation and oil deposits beneath the earth's surface.

Rx: *Common tastes and odors can be easily treated by a tank filter containing activated carbon. The carbon absorbs the tastes and odors. Minor problems can be treated by a single-faucet filter. Hydrogen sulfide is a different problem requiring a different type of treatment. Low levels can be treated with an iron filter, followed by a water softener. High levels require a chemical feed pump followed by a turbidity filter.*



CONTAMINANTS

Symptoms: Drinking water contaminants cannot be detected except by professional testing.

Cause: Drinking water contaminants are either naturally occurring or man-made. See the EPA Water Contaminant Chart for specific causes.

Rx: *Depending on the type and amount of contaminant, there are various methods of treating water, including sediment filters, taste and odor filters, chemical contaminant filters, lead reduction filters, reverse osmosis drinking water systems, and distillers.*



Detecting Problems Through Water Testing

While some common home water problems can be visually detected, others need to be identified and/or measured through water testing.

IN-HOME TESTING

With a brief home visit, water treatment professionals can easily detect many water problems caused by nature. They are trained to spot symptoms of certain water problems and, with the help of a portable testing lab, to measure levels of contaminants.

The most common in-home water tests are for hardness (measured in grains per gallon), iron (measured in parts per million), acid, chlorine, nitrates, and total dissolved solids. Water suspected to contain bacteria must be tested by a laboratory.

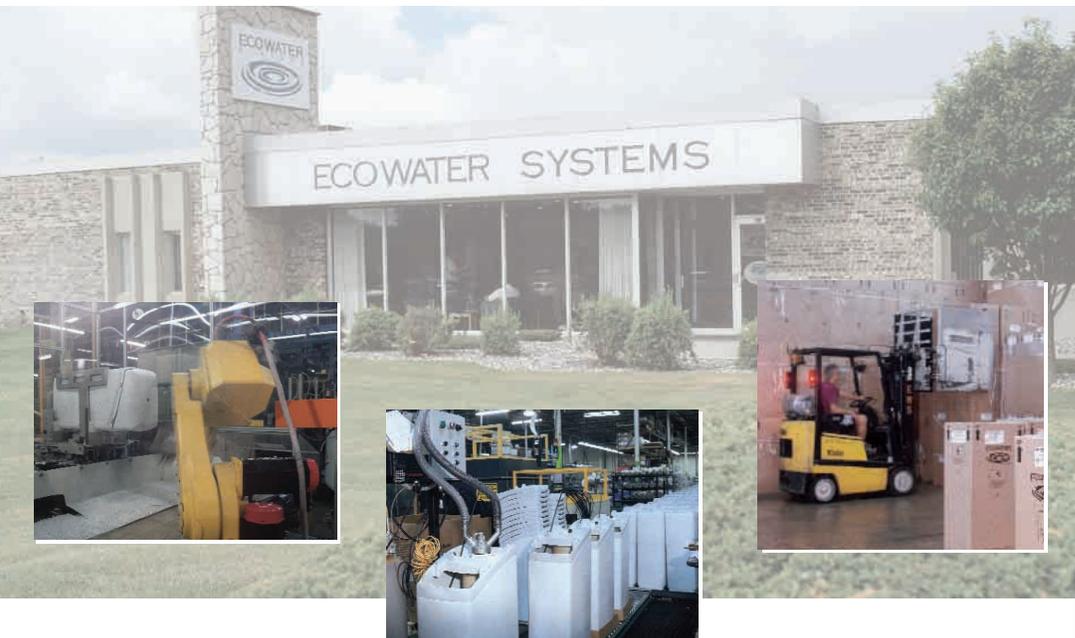
LABORATORY TESTING

In cases where laboratory testing might be required, water samples can often be mailed to a lab or submitted by a water treatment professional. To locate a reputable water testing lab, homeowners can look in the Yellow Pages under *Water Analysis, Water Testing, or Lab, Testing*. Or, they can contact the state Department of Health for a list of certified labs nearby.

For other water-related questions, call the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791, weekdays between 9:00 a.m. and 5:30 p.m. EST., or visit their web site at www.epa.gov/safewater.



Who Is EcoWater Systems LLC?



WE ARE...

a worldwide leader in the residential and commercial water treatment industry.

OUR MISSION...

is to become recognized as the most customer-conscious, highest-quality, lowest-cost producer in our industry.

OUR VALUES...

include quality in our products and services, a passion for customer satisfaction, mutually beneficial relationships with customers and suppliers, teamwork in achieving our corporate goals, and uncompromising integrity in our business conduct.

CRITICAL FACTORS...

in accomplishing our mission are people, products, and profits. Our people must be committed to competitive excellence, our products must be state-of-the-art and meet or exceed customer needs, and our profits must be reinvested for future growth.

With more than 80 years of industry experience, EcoWater Systems has the products and knowledge to solve most home water problems. Our products have earned the esteemed Good Housekeeping Seal. The company is registered to the ISO 9001 Standard for Quality Systems and provides the best warranty in the industry on all its water treatment products. EcoWater products are sold through more than 1,400 independent, authorized dealers in the United States, Canada, Europe, Asia, Middle East, and Africa.

For more information about EcoWater products and services or to locate the authorized dealer nearest you, call **1-888-WATER-OK (1-888-928-3765)** or visit **www.ecowater.com**.



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