Odors

The treatment options for odor varies with the source and the concentration of the odor.

Aside from chlorine odors, most odors on municipally treated water (city water), are a result of decaying organic material and algae in the source water. Other sources of odors in city water are from decaying or contaminated distribution pipes, or from water heaters in the home.

In well water, odors are commonly the result of sulfur bacteria, or compounds of iron, manganese, and sulfates. For example, hydrogen sulfide gas ("rotten-egg odor") commonly occurs in well water as a result of decaying organic matter and the activity of sulfates and various species of sulfur or iron bacteria.

Determine The Source – Hot or Cold Water?

To eliminate the odor the first step is to identify whether the odor is in the source water, or whether it is being created in your piping by bacteria or in the water heater as a result of the anode rod.

Is the odor in the cold water outside the house, (run a hose bib)? If this is the case, your source water may actually contain the odor, and depending on the situation, you may be able to filter the water as it flows in to your house or building.

If you are on chlorinated city water and your water from an outside hose bib has a strong chlorine odor, then an activated carbon system may remove the odor. If you have a rotten-egg or sulfur odor from city water, identify whether it is just the hot water, or if its also cold water, and whether or not the odor exists inside or outside the house, say from an outside hose bib or faucet.

If the odor is in the cold water inside your house or building only, one cause can be old galvanized iron piping, or some part of your plumbing contains iron piping. Various strains of iron bacteria live in iron piping and give off methane and hydrogen sulfide gas as they decay, causing the odor.

These same bacteria often thrive only in water heaters (even new water heaters) as a result of the anode rod inside the water heater. For this type of problem, adding hydrogen peroxide (which can be purchased at any drugstore) will eliminate the problem. This can be done by adding a simple prefilter prior to the water heater. Let the water heater sit for several hours. If the odor returns in a few days or few weeks, then the magnesium anode rod inside the water heate will need to be replaced with a zinc-aluminum rod, or an electric anode rod.

Rotten-Egg Odor in Well Water

The incidence of "rotten egg" sulfur odors and often the resulting black water in hot and cold water lines is due to the reaction of sulfates and microorganisms in water. Some well waters contain an excessive amount of sulfates with various strains of sulfate bacteria. These bacteria, harmless to health, will react in stagnant water that has been depleted of oxygen, and will produce hydrogen sulfide gas.

If your well water is used directly from the well, and not aerated in a atmospheric (non-pressurized) storage tank, then the odors are most likely caused by anaerobic bacteria. These types of bacteria thrive in oxygen-deprived environments, and often on waters high in sulfates.

If the cold water entering the home contains no odors, odor can still develop in cold water piping in the home, especially in galvanized iron piping. Often iron piping in the house is of an older age and can be corroded, providing a good environment for the bacteria to grow and odors to develop.

If there is an odor in the cold water inside the home, but not directly from the well, see if the piping is iron piping, and then replace it with copper. As a first step to this process, one can shock-chlorinate the piping and sanitize it, and see if the odor can be eliminated.

The most common methods to eliminate odors from well water are:

- Periodic shock chlorination with high doses of chlorine
- Aeration of the water to oxidize the hydrogen sulfide gas, combined with periodic shock chlorination.
- Continuous ozone injection to the water
- Continuous chlorine injection to the water
- Continuous hydrogen peroxide injection
- Filtration of the odor by greensand media or activated carbon