

Does Your Hot Water Heater Have An Odor?

Taste and odor problems can affect hot or cold water, but hot water problems usually bring complaints of smells like rotten eggs.

The rotten egg odor is caused by hydrogen sulfide gas. The odor is unpleasant, but the gas is not usually harmful at the low concentrations that occur in a household water system. This is not a problem of health but of aesthetics.

The causes of the odor have several components. These include naturally occurring minerals and compounds in the water and the associated electrons, the amount of time water resides in the hot water heater, bacteriological activity and an improperly functioning anode in the hot water heater.

Sulfur often appears in water as sulfate ions. These ions can convert to sulfides and hydrogen sulfide gas by gaining electrons (negatively charged particles).

The nonpathogenic (harmless) sulfate reducing bacteria present in most water systems produce enzymes that have the power to speed up the sulfate-reduction reaction. However, the sulfate-reducing bacteria lack the ability to process this reaction without the external energy source provided by the excess free electrons.

Another influencing factor is the length of time that the water stays in the hot water heater. Even at a very low reaction rate, the hydrogen sulfide may build to objectionable levels if given enough time.

How to Eliminate Odor

Each case may have its individual characteristics but as a general rule of thumb consider doing the following:

- Cycle water through the hot water heater on a more frequent basis, ideally a change of water should go through the hot water heater at least every two or three days
- Kill the sulfate-reducing bacteria with increased heat. Sulfate-reducing bacteria die at about 140 F. Increasing the temperature to the high setting (160F) for several hours should kill the Sulfate-reducing bacteria. Then flushing the hot water heater to remove the dead cells.
- **CAUTION: The hot water tank MUST have an operable pressure relief valve; otherwise this method of treatment may be dangerous. The temperature setting should be reduced following treatment to prevent scalding hot water and to avoid high energy costs.**
- Change the anode rods. This is best accomplished by a licensed plumber or other professional.
- Chlorinate the hot water heater. This is best accomplished by a licensed plumber or other professional.