

# When Your Hot Water Smells Like “Rotten Eggs” (Sulfur smell)



Not everyone has had the experience of having the smell of rotten eggs wafting from their hot water. But if you have, you won't forget it. If you're not sure if it is your hot water you can do a simple test. First run a faucet where you are getting this smell, but only run the cold water. Run it for a few minutes, is the smell still there? Most likely it is not. Next, turn on the hot water only at the same faucet and let it run for a few minutes, do you start to smell a “rotten egg” smell? If you do chances are good that the “rotten egg” smell or sulfurous smell is caused by anaerobic bacteria setting up quarters in the magnesium and aluminum elements of your water heater, creating gas. It smells terrible, but is generally harmless. Before calling in a plumbing contractor, you may want to add a quick flushing procedure as part of your home improvement routine.

Most water heaters come equipped with what are called "sacrificial anodes." The moniker applies because these anode rods are comprised of metal that gives itself up to dissolving agents in the heater instead of allowing the corrosives to gnaw at more vital parts. In so doing, the anodes protect the heater, but they also emit hydrogen gas in the process that bacteria feed on.

## Launch a Pre-emptive Strike on Bacteria

In many cases, you can nip the stench before it overwhelms your environment. You can call in a plumbing contractor to assess the anodes. *If you're told to remove the anodes, be advised that it can stop the smell, but greatly speeds up the degradation and rusting of your water heater, and is not recommend by the manufacture and can void the warranty.*

Another option is to have them install an aluminum-zinc alloy anode. Check and see how many anodes there are in your current water heater. Some models employ two of them. While an aluminum-zinc anode cuts down on generating bacteria, it may not be effective if you're using a water softener along with the water heater. In most cases, it's better to try the flush first.

Turn off the cold water valve to the heater and open a hot water line in the bathroom or kitchen and drain some hot water from the tank. There's an access valve on one side of the tank. Using a hydrogen peroxide solution of 2 pints 3% peroxide to 40 gallons of water, treat tank and run some of the solution into water lines. Let the peroxide solution set in tank and pipes for 2 hours. Solution is not toxic and requires no rinsing It kills off the bacteria. Chlorine bleach works as well, but it can create gases and vapor you don't really want in your home.

You should run a little of the peroxide-water combination out of the open hot water lines, but keep the balance of the solution in the hot water tank for several hours to do the trick. Close it all up, run fresh cold water into the heater, let it flush through, and you're done!

### Temperature is Important

Once you get the sulfate-reducing bacteria in your water heater you will want to get them out. Even if you drain your water heater, change the anode you'll still have the bacteria. But, there is an easy way to kill them off. To eliminate sulfate-reducing bacteria from the water heater, you need to raise the water temperature above 140 degrees for 8 hours. Bacteria die out at temperatures above 140 degrees. To safely follow this procedure, first make sure your water heater has a functioning temperature and pressure relief valve. Also, to prevent accidental scalding, warn users that water will come out of faucets extremely hot and should not be used at the increased temperature.

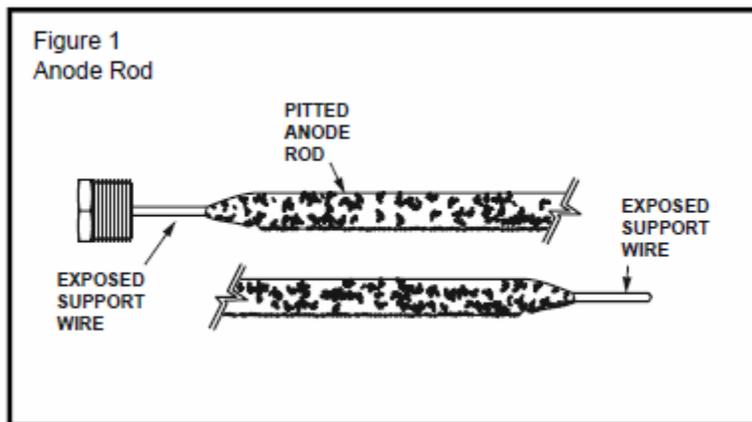
### The Anode Rod

The anode rod should be inspected after a maximum of three years and annually thereafter until the condition of the anode rod dictates its replacement. NOTE: artificially softened water requires the anode rod to be inspected annually.

The following are typical (but not all) signs of a depleted anode rod:

- The majority of the rods diameter is less than 3/8".
- Significant sections of the support wire (approx. 1/3 or more of the anode rod's length) are visible.

If the anode rod show signs of either or both it should be replaced (see Figure 1). NOTE: Whether re-installing or replacing the anode rod, check for any leaks and immediately correct if found.



### Drain Your Water Heater

In water systems with "hard" water, it is best to drain your water heater twice a year. This drains out the tiny iron particles that settle to the bottom of your water heater. Draining them out of your water heater does two good things. First, it removes the tiny particles of iron that have settled to the bottom that may discolor your water and that provide sulfate reducing bacteria their food supply. Secondly, you are heating water more efficiently as

you are no longer first heating the sludge that settled to the bottom of the water heater before you heat the water.