



Controlling Odors in Hot Water Heaters

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Periodically, an offensive odor develops in the water stored in the hot water heater. This may be the result of hydrogen sulphide gas (rotten egg smell) already dissolved in the water or may be caused by a reaction within the tank itself. When water containing hydrogen sulphide gas is heated, it can no longer hold the gas in suspension, causing it to gather in the tank and be released through the tap. If the cold water appears to be odor free, the problem is likely occurring within the heater itself.

In some instances the source of the odor may be occurring within the well itself. (See Water Fact : *Shock Chlorination for Iron Bacteria Control*)

If any organically based material makes its way into the tank, either in the form of a mineral reducing bacteria which is normally harmless to humans, or from other sources, odors can be produced as a result of the increased temperatures within the tank. These high temperatures will drastically increase the rate of decomposition of the organic matter or provide the ideal breeding environment for the bacteria. In both cases, hydrogen sulphide gas is produced as a by-product.

In some cases, the water itself reacts with a magnesium anode, located within the water heater to control corrosion. If this reaction is too severe it will cause the rotten egg smell. This magnesium anode serves a very important role in the protection of the glass-lined water heater. The anode is installed by the manufacturer to attract and neutralize the corrosion of the water that would otherwise attack the

tank through any pinholes in the glass-lining. Removal of this "sacrificial anode" will void or reduce the warranty of the glass-lined water heater.

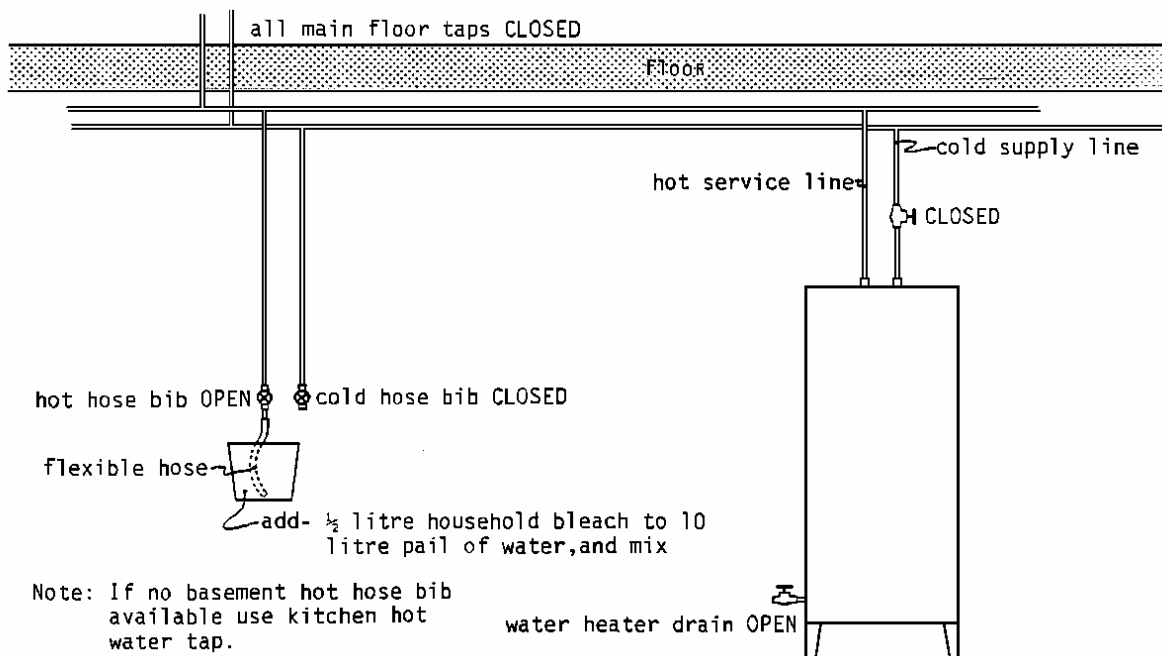
Treatment of the water heater by "shock chlorination" is the first step in correcting a hydrogen sulphide odor problem. This treatment involves the use of a common bleach compound that clearly states on the package or bottle "Active ingredient-Sodium Hypochlorite". Good examples are "Javex" and "Perfex" household bleach, available in any grocery store.

The addition of 500 mL (1 pint) of household bleach into a 180 L (40 gal) water heater or 140 mL (5 fl. Oz.) per 45 L (10 gal) of heater capacity, left to stand overnight, is sufficient to burn off or kill any bacteria present inside the heater. If repeated treatments do not correct the problem, the removal of the magnesium anode may be considered. If the anode is removed, some companies provide alternate anodes, which can be utilized, for replacement.

Chlorination Procedure:

- 1) Turn off the water heater elements.
- 2) Shut off pump or incoming water supply.
- 3) Attach a short length of hose to the nearest hot water tap. The supply tap servicing the clothes washer can be fitted directly with a garden-hose. Other taps in the house may require special adapters or fittings to allow a hose to be attached.

- 4) Mix 0.5 L (1 pint) of "Javex" with 10 L (2 gal.) of cold water in a pail or other container.
- 5) Immerse the end of the hose into the pail of chlorine.
- 6) Open the hot water tap that has been fitted with the piece of hose.
- 7) Open the drain valve on the bottom of the heater and run the water to waste. This will create a vacuum within the water system which will draw the chlorine/water solution through the piping into the heater.
- 8) When all the solution is drawn into the system, close the tap and the heater drain valve.
- 9) Allow the heater to stand for 8 hours after injecting the solution to allow time for it to work.
- 10) After the 8 hour waiting period, drain and flush the water heater and turn on the heating elements.



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