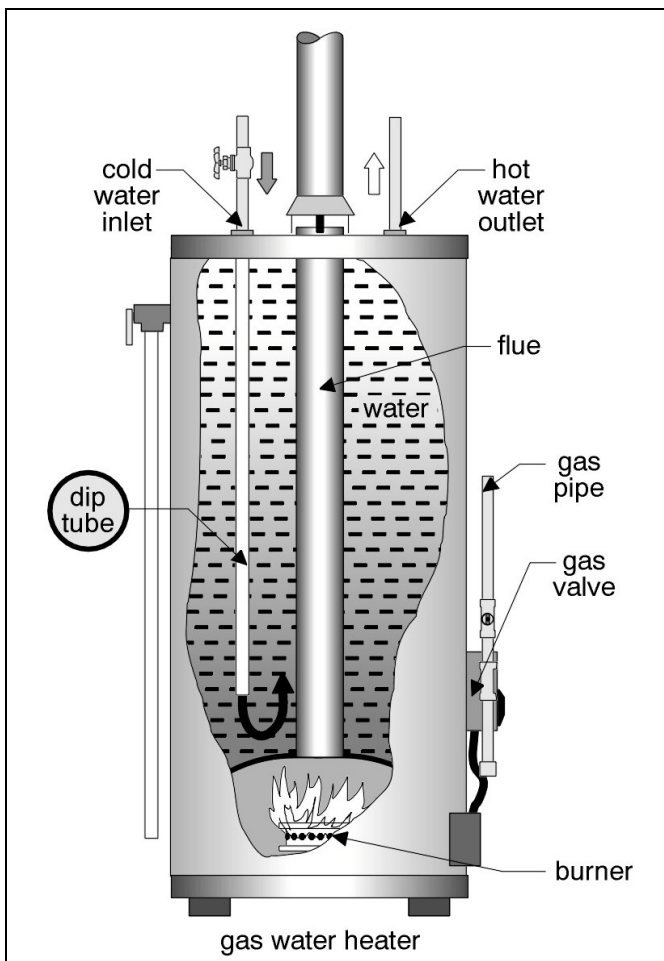


## Q & A

### Water Heater Defects?

*We keep hearing rumors about defective water heaters. What are they talking about and which ones are affected?*

The problem is defective water heater dip tubes that could affect 21 million consumers. A dip tube is a plastic tube inside the water heater that is connected to the cold water pipe. When hot water is used from the top of the tank, the



water is replaced to the bottom of the tank thru the dip tube. The water is then heated by either a gas burner or electric heating element.

According to plumbing industry sources, up to 90 percent of residential water heaters built between 1993 and 1996, an

estimated 21 million units, may rely on defective polypropylene "dip tubes," which break down inside the water heater and cause plastic chips to flow to water faucets. The chips do not pose a health risk, but they can decrease water flow from household faucets and appliances and diminish water heater efficiency and effectiveness. Many water heater manufacturers are now replacing the defective water heaters or dip tubes at no cost to the consumer. Manufacturers altered their process between 1993 and 1996, using materials that can break down and dissolve in as little as two to three years.

The American Water Works Association (AWWA) on February 19, 1999, said that water containing tiny plastic chips from defective household water heaters is safe. "These plastic chips are a nuisance, and they may decrease the performance of your appliances, but they are non-toxic and do not pose a health threat," said Clare Haas, AWWA Water Quality Engineer. "Affected consumers should call their water heater manufacturer immediately to get the problem remedied."

During the past several years, consumers have reported the telltale white or gray deposits that clog bathroom, kitchen and other water fixtures. The subject was first addressed on AWWA's web site, where drinking water experts shared information and identified the problem in a "technical forum."

"In order to educate consumers on the potential problems and help them avoid unnecessary costs, AWWA offers consumers the following advice:

**How to tell if you're affected** - If you notice a decrease in the amount of hot water, the efficiency of your water heater, or have particles blocking your faucets, your water heater's dip tube may have disintegrated. To perform a quick test, disconnect water lines on your washing machine and look for any white or gray particles in them. If you find particles in the cold water line, they are probably not from your hot water heater. If you find particles in the hot water line or in the screen on your faucet, put them in standing water to see if they float. Particles that float are from the dip tube. Another test is to apply heat to the particles. If the chips are from the dip tube, they will melt and the smoke will smell like plastic.

**How to fix the problem** - To fix the problem, the dip tube has to be replaced. Although the dip tube is relatively inexpensive, it can be very difficult to a homeowner to replace because the water heater will also need to be flushed to remove any lingering plastic chips. Another option is to completely replace the water heater, which is usually more expensive than replacing the dip tube and flushing the water heater. In either case the house fixtures, strainers, and aerators will have to be cleaned several times until all the dip tube chips are flushed from the piping. Although many

