

### ***Information about Hard Water***

Montgomery County PSA operates 8 water systems using 3 different water sources. The majority of the systems receive surface water from the New River, while 2 systems, Riner and Woodview receive groundwater. The treated water from the New River is relatively soft water while systems supplied by groundwater receive hard water.

#### **What is Hard Water?**

Water hardness is the measure of the capacity of water to react with soap, as hard water requires considerable more soap to produce lather. Minerals in hard water can cause spots to form on glass in a dishwasher and scale on fixtures and dishware. Hardness minerals tend to come out of solution when heated resulting in a buildup of scale deposits. Water hardness is caused by several polyvalent metallic ions with calcium and magnesium predominating and commonly expressed as a measure of calcium carbonate.

Hard water is safe for drinking and may actually be beneficial due to the calcium.

#### **Tips for removing hard water buildup**

***Water Heater*** – Hardness minerals come out of solution when heated and settle to the bottom of water heater tanks, which can interfere with the operation of the water heater. Most water heater tanks have a spigot on the bottom that can be periodically (monthly) drained to flush out scale buildup. Care must be taken as the water is hot and a section of hose may be needed to discharge the heated water to a suitable drain. It usually takes 30 to 60 seconds to adequately flush the tank. Open the spigot till the water turns clear and then shut off.

***Surfaces*** – Straight white vinegar can be used to loosen and remove hard water buildup. Pour vinegar directly onto the surface and let stand for 10 minutes before rinsing. Another application of vinegar and a stiff bristle brush can be used on persistent buildups.

***Coffee Makers*** – Vinegar can be poured directly into the coffee maker water reservoir and the coffee maker operated. The hot vinegar will remove hard water deposits quickly. Several pots of water should be run through the coffee maker to rinse.

***Cooking pot/pans and tea pots*** – Two cups of vinegar can be heated to a boil and simmered for ten minutes. Pour out the vinegar and rinse with water.

***Washing machines*** – Pour two cups of vinegar in the bleach dispenser of the washing machine and run on small load setting.

***Dishwashers*** – Pour four cups of vinegar in the interior of the dishwasher and run for a short cycle.

#### **Water Softening**

There are advantages and disadvantages to installing a household water softener. Typical water softeners use an ion exchange process where the calcium and magnesium minerals are replaced by sodium or potassium salts. Each customer should thoroughly evaluate their household and health circumstances to determine if a water softener is a good solution for their situation. There is a considerable volume of available information relative to water hardness and softeners on the internet. Recommended starting points are the American Water Works Association ([www.drinktap.org](http://www.drinktap.org)) and the USEPA ([www.epa.gov](http://www.epa.gov)). You may also contact the PSA Office if you have additional questions.