Colored Water

At times water can appear to be a different color than normal. Here is some information to help you problem solve should your drinking water just not look right.

My water is colored, what causes it?

Brown or orange particles
Brown or orange particles are usually small pieces of rusted steel that have broken off the inside of your water pipes or the City of Lake Oswego water mains. These particles are very hard, irregular in size and shape, and can be several different colors (including black).

They consist of mostly iron and are not a health hazard, but they can be a nuisance if they clog your washing machine screens, shower heads, and/or the screens at the ends of your faucets (called aerators). If the water is clear with these particles in it, they probably came from the inside of your pipes. If the particles come from the City of Lake Oswego water mains, the water will usually be discolored for a few hours as well.

Another common cause of brown or orange particles in the water is a broken water softener. Inside a water softener are many small, round beads. The mechanism that keeps these beads in the tank can break, releasing them into your water. These beads vary in size and color, depending on the manufacturer; however, some commonly used beads are about the size of fish eggs and are brown or orange in color. If you see that these particles are uniform in size, shape, and color and you have a water softener, call your service agent for repairs.

Black particles
Black particles can come from four common sources: the inside of a steel pipe, a broken water filter, a degrading faucet washer or gasket, or a disintegrating black rubber flexible supply line hose. (These same hoses are also made as flexible water heater connectors.)

Particles from the inside of a steel pipe
Are discussed in more detail under the brown or orange particles section of this question.

If the particles are very hard, similar in size and shape, and might be described as large coffee grounds, they are probably granular activated carbon (GAC) from the inside of a GAC water filter. To stop this problem, replace the filter cartridge or consult with the manufacturer of the unit or the salesperson who sold it to you.

If the particles are solid but rubbery in texture, they could be pieces of an old disintegrating faucet washer or gasket. If this is the problem, the particles would likely be present only at one faucet and that faucet might leak. To fix this problem, replace the faucet washers and the packing at the ends of the supply lines.

If the particles are small black specks that might be described as being oily or sooty in texture, they are probably from the inside of a flexible hose. These hoses are made of black rubber, but they are covered with a braided stainless steel mesh. Over time, the chlorine in the water causes the rubber to break down. These hoses are located under the sink connecting the water supply to the faucet, or at the water heater connecting it to the water supply.

To stop this problem, replace the hose with one of the new styles that have a water disinfection resistant lining (clearly advertised on the label), or change to a different style of hose that is not made of black rubber.

White or tan particles
White or tan particles in the water usually come from one of three places: the inside of your pipes, your water heater, or your water softener.

White or tan particles can be a combination of calcium carbonate and magnesium carbonate. This material is often referred to as pipe scale. Calcium and magnesium carbonates are naturally occurring minerals and are found in varying concentrations in most waters around the world. These minerals are not a health threat; in fact, they are

beneficial to human health.

The amount of these minerals in the water determines the hardness of the water; higher mineral concentrations make the water harder. In Lake Oswego we have soft water, but the water still contains these minerals. Over time, these minerals can deposit on the inside of your pipes and then begin to flake off.

Although this process usually occurs slowly over a long period of time, there are a couple circumstances that can cause it to happen rapidly.

- If your water was turned off for repair work (either by you or by the City), the pressure and turbulence created when it is turned back on can dislodge the minerals from the pipes.
- If the water supplied by the City becomes softer or if you add a water softener to your plumbing system, this softer water can begin to dissolve the minerals from the pipes and pieces may begin to break loose.

If you have galvanized steel pipes, they will corrode slowly over time. As they corrode, they swell up on the inside, which causes the minerals to flake off. These are all common causes of pipe scale in the water and account for many of our customer complaints about white or tan particles.

Although pipe scale is not a health hazard, it can be a nuisance by clogging inlet screens to washing machines, shower heads, and faucet aerators (the screen that screws on to the end of the water faucet). There is no practical way to remove pipe scale from the inside of your pipes; if the problem is severe, you may want to consider replacing your plumbing.

Another way these minerals can form white or tan particles is in the water heater. As the water is heated, the minerals begin to precipitate out of the water, forming white or tan sand-like deposits. As you use the hot water, these minerals can be carried along again to clog inlet screens to washing machines, shower heads, and faucet aerators.

To keep mineral deposits from accumulating in the water heater, flush it at least once a year. Flushing the water heater regularly also extends the life of the heater and makes it operate more fuel efficiently. Contact the water heater manufacturer for more information.

The water heater can also put floating white particles into the water. Many water heaters contain a plastic dip tube. The dip tube is an extension to the inlet of the water supply. The tube is on the inside of the heater and allows the cold incoming water to enter the tank at the bottom. As the tube gets old, it can begin to disintegrate and show up as white particles in the hot water.

These particles vary in size and will break apart fairly easily. They can have a faint bluish-green tint to them, but they are mostly white. To correct this problem, contact the manufacturer for advice. Replacing the dip tube is not a typical do-it-yourself project. Contact a licensed plumber for more information.

White or tan particles can also be water softener resin beads. Since the City of Lake Oswego has soft water this is a very rare occurrence, but some customers do install water softeners. Inside a water softener are many small, round beads. The mechanism that keeps the beads in the tank can break, releasing them into your water. These beads vary in size and color depending on the manufacturer; however, two commonly used beads are very small and are white or tan in color. If you see that the particles are uniform in size, shape, and color and you have a water softener, call your service agent for repairs.

If you have colored water and would like to set up an appointment with the Water Department please call the Operations Division at (503) 635-0280. Appointments can be made Monday through Friday from 8:00am - 2:30pm.

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