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## FACT SHEET

### Iron

#### *Iron in Drinking Water*

Iron can be a troublesome chemical in water supplies. Making up at least 5 percent of the earth's crust, iron is one of the earth's most plentiful resources. Although present in drinking water, iron is seldom found at concentrations greater than 10 milligrams per liter (mg/L) or 10 parts per million. However, as little as 0.3 mg/L can cause water to turn a reddish brown color.

#### *Health*

Iron is not hazardous to health, but it is considered a secondary or aesthetic contaminant. Essential for good health, iron helps transport oxygen in the blood. Most tap water in the United States supplies approximately 5 percent of the dietary requirement for iron.

#### *Stains and Deposits*

Concentrations of iron as low as 0.3 mg/L will leave reddish brown stains on fixtures, table ware and laundry that are very hard to remove. When these deposits break loose from water piping, rusty water will flow through the faucet.

#### *Iron Bacteria*

When iron exists along with certain kinds of bacteria, a smelly biofilm can form. To survive, the bacteria use the iron, leaving behind a reddish brown or yellow slime that can clog plumbing and cause an offensive odor. This slime or sludge is noticeable in the toilet tank when the lid is removed. These organisms occur naturally in soil and groundwater.

#### *Organic Iron and Tannins*

Iron can combine with different naturally occurring organic acids or tannins. Water with this type of iron is usually yellow or brown, but may be colorless. As natural organics produced by vegetation, tannins can stain water a tea color. In coffee or tea, tannins produce a brown color and react with iron to form a black residue that you may see floating on the surface of your beverage.

### *Treatment*

The City of Rockford has installed filtration that removes oxidized iron from the groundwater at ten well sites. The iron is removed from the groundwater before it is pumped into the water system. As a result of this treatment process, the iron in our drinking water is ten times less. This helps to ensure clear tap water for every customer.

### *Unidirectional Hydrant Flushing*

Spring marks the onset of our annual unidirectional flushing program. This annual maintenance is performed to remove normal mineral build-up from the pipes that deliver water to our customer. Iron is found in this mineral build-up. The removal of these minerals helps to ensure the quality of the water that is delivered to your home.

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