



Iron in Drinking Water

Iron is a metal and one of the most abundant elements on the earth's surface. As a result, iron is naturally present in soil and water. It is also present in the human body where it is essential for transporting oxygen in the bloodstream. High iron levels in drinking water can cause a metallic taste, staining, and/or rusty color.

What are the sources of iron?

- Naturally occurring in groundwater due to weathering of rock and soils
- Steel manufacturing and construction
- Corrosion of pipes or well casing
- Pigments in paints and plastics

What are the effects of iron in drinking water?

The primary source of iron for the general population is food. Intake from drinking water is considered a secondary source because iron in water is not easily absorbed by the body. The negative effects of iron in drinking water are generally aesthetic- or taste-related, rather than impacting human health. Acidic conditions (pH < 6.5) can cause corrosion of iron or steel pipes, releasing iron into water. High iron levels in water can promote conditions where disease-causing organisms can grow. Such conditions are typically indicated by the presence of a reddish brown or yellowish slime (biofilm) with an unpleasant odor.

What are the drinking water guidelines for iron?

The Safe Drinking Water Act sets protective standards, called Maximum Contaminant Levels (MCLs), for more than 90 contaminants that can potentially be found in drinking water. MCLs are practical treatment levels calculated to be protective of human health. There is no regulated MCL for iron. The U.S. Environmental Protection Agency has set a secondary, non-regulatory MCL of 0.3 parts per million (ppm).

What actions can well owners take?

Residents who use a private well as a drinking water source should have the well water tested for iron contamination upon move-in; every 5-10 years; or as needed. Testing results can help well owners determine if they would like to manage non-health impacts of iron in their well water, such as taste and/or odor, by installing a water softener or iron treatment system.

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