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General Mineral

Below you will find information for your water testing:

pH (Acidity)

The pH of water is a measure of how acidic it is. A pH of 7.0 is neutral. Higher values indicate alkaline water; lower values indicate acidic water. On the average, water with a pH between 6.5 and 8.5 will probably not cause problems. However, the more alkaline the water is, the more likely it will be to have a "lime scale" build-up in the plumbing, especially if the water is hard. The more acidic the water is, the more likely it will be to cause metallic tastes, stains (blue/green from copper; orange/brown from iron), and corrosion of metal components of water systems. Water neutralizing systems are available. If your water is acidic, please ask us for treatment recommendations.

Recommended Level:

6.5 – 8.5

Total Dissolved Solids

TDS gives an indication of how high the mineral content of the water is, which could indicate potential problems requiring further analysis. Highly mineralized water can cause problems with water stills, boilers, radiators, and filters, and can cause a mineral build-up on cooking utensils and spotting of glassware. The health effects of highly mineralized water depend upon the minerals present and their concentrations. Very high levels have a cathartic reaction and do not quench thirst.

Recommended Limit:

500 mg/L

Hardness (Calcium and Magnesium)

The hardness test primarily measures the Calcium and Magnesium content of water and reflects the degree of difficulty one can expect in using non-detergent soaps. The harder the water, the more soap is required to overcome the effects of the hardness. High hardness at alkaline pH's can also result in the formation of lime scale in pipes, cookware, and appliances, especially in hot water heaters. A conventional water softener usually remedies the problem. However, persons on restricted sodium diets should be aware that water softeners can significantly increase the sodium content of water.

Recommended Limit:

No recommended limit has been set by the EPA.

Iron

Listed below are several possible sources of iron problems:

Sediment

If our iron-colored soil finds its way into the water source, it may give the appearance of iron contamination. A simple sediment filter is often sufficient to remove moderate amounts of sediment. If the discoloration mainly appears following heavy rainfall, it may be indicative of another problem — contamination by surface water. The coliform bacteria analysis can check whether this is the case.

Corrosive Water

Water that has a pH of 6.8 or less can be corrosive to metal components of water systems, especially if the water is also soft. Iron can be corroded from galvanized pipes and any iron-containing appliance or fitting. A good test for this condition is to compare the water at the source with water from within the house. If it is low in iron at the source, but high at the house, and acidic, you might want to consider installing a water neutralizer to alleviate the problem.



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Dissolved Iron at the water source

Iron may already be present at the water source, either as a natural component of the source water or due to the action of corrosive water on iron or steel well casings. For this type of iron problem there are several types of iron filtration systems available at water conditioning equipment sales outlets.

Old-galvanized iron pipes

Many older homes have galvanized iron plumbing. Over time the galvanized coating corrodes off, exposing the iron underneath. Iron pipes are notorious for corrosion. One symptom of this problem is the appearance of iron-colored particles, especially in screen filters. Such breakoffs of iron corrosion can also cause rust-colored spots on laundry. One solution for this type of problem is to replace the iron plumbing with an approved alternative.

Health Effects:

Compared to the amount of iron normally consumed in the diet, the amount that is ingested in drinking water is very small, and probably represents little danger of adverse health effects. The EPA limit of 300 g/L was adopted because problems with taste and staining do not occur below that level. However, from 3 – 8 people per 1000 have a rare genetic tendency towards Iron Overloading Disease (primary hemochromatosis).

Related Problems:

Surface film

Very high amounts of dissolved iron can cause the development of a surface film on standing water that resembles an oil slick. Iron removal treatment will alleviate this problem.

Iron Bacteria/Iron Rust Bacteria

There are several species of naturally occurring bacteria that may be associated with the presence of dissolved iron in water, or with iron plumbing. These bacteria are not a health hazard but can be a considerable nuisance. They use iron as their energy source and may develop into a slimy, iron-impregnated coating on plumbing that can clog filters and other plumbing parts, as well accelerate corrosion. Occasionally pieces of the slime will break off and appear in toilet bowls and bathtubs. Sometimes there are odors associated with the presence of iron bacteria. These odors are often due to sulfate-reducing bacteria which can take up residence in the slime produced by the iron bacteria. During their growth they produce hydrogen sulfide, a gas that smells like rotten eggs. In some instances, the hydrogen sulfide will combine with dissolved metals (iron, manganese, copper) in the water to produce black precipitates which often collect in hot water heaters. Periodic disinfections of the well and water system with household bleach may bring temporary relief from sulfur odors, but only rarely permanently cures iron and sulfate-reducing bacterial problems. Check with a water conditioning professional for their treatment recommendations.

Recommended Limit:

300 µg/L (0.3 mg/L)

Manganese

Manganese in amounts greater than 50 to 100 µg/L may cause dingy laundry, blackish stains on plumbing fixtures, and may impart a metallic taste to water. Manganese treatment systems are available.

Recommended Limit:

50 µg/L (0.05 mg/L)