



What is Iron?

- 💧 Iron is an important micro-nutrient, necessary in our bodies for forming haemoglobin (the red blood pigment, which carries oxygen).
- 💧 Iron is a silvery-white metal, but due to oxidation, it normally appears to be brown or black.
- 💧 We can recognise iron in the soil, when the soil has a reddish colour.

Iron in water

- 💧 Iron occurs in natural fresh water because of leaching from iron-rich rocks or in anoxic, reducing sediments.
- 💧 Normal concentrations in natural fresh water range from 0,001 to 0,5 mg/l.
- 💧 Higher concentrations may be indicative of pollution. e.g. acid mine drainage.

What problems can Iron cause?

- 💧 Healthy people with a balanced diet consume approximately 20 mg iron per day.
- 💧 Water with an iron concentration of less than 10 mg/l has no adverse effect on your health.
- 💧 Ingestion of excessive amounts of iron can lead to acute poisoning in babies and children.
- 💧 Chronic iron poisoning over a long period of time, can lead to Will's disease (Haemochromatosis).
- 💧 Aesthetically iron can change the water colour to brown and make it taste like metal.
- 💧 Children under the age of 4 and people that suffer from hypersensitivity to iron should be careful of high iron concentrations in water.

How can Iron in water be treated?

- 💧 Children under the age of four and people that suffer from hypersensitivity to iron should be careful of high iron concentrations in water.
- 💧 If the iron is complexed to organic matter in the water, strong chemical oxidants and lime will be necessary to remove the iron from the water.
- 💧 Effective methods for the removal of iron from water are conventional coagulation and flocculation techniques.
- 💧 Home treatment kits, using ion-exchange processes are expensive and treat only small volumes of water.



Reference: DWAF (1998). Quality of domestic water supplies. Vol. 1: Assessment Guide. WRC No. TT 101/98, pp. 21.