

Iron (Fe)



Iron belongs to the group of transition metals. Created by fusion in large stars, iron is estimated to make up most of the Earth's core. Iron has been known to mankind for millennia, mostly as the main ingredient for making steel and other alloys. It easily oxidizes in the air, a process commonly known as rusting. Iron as a pure metal is naturally quite malleable and soft. For this reason, carbon and other elements such as chromium are added to iron in the process of forging to make it stronger, harder and even stainless. Besides its industrial uses, iron has numerous functions in the human body.

Fe
Iron



Functions/Health effect:

Iron, while being only a trace element, is nonetheless essential for human health. Most of the iron in the human body is contained in our blood and muscles. In blood, it is a part of hemoglobin, a protein responsible for transfer of oxygen to most of the tissues. In muscle cells, it is part of myoglobin which has a similar function. Iron is involved in energy metabolism, synthesis of neurotransmitters and collagen - by being a part of several enzymes. It is also responsible for proper immune function. An average adult man has about 1000 mg of stored iron in his body and a woman about 300 mg. This is enough to supply the body for several months. However, if there is a lack of iron in a person's diet, hemoglobin levels will decrease over time and can eventually cause anemia.

The recommended daily dose of this trace mineral varies by gender and age, and the minimum daily requirement for an average adult is 1.8 mg. This represents just about a 70 g portion of red meat or about 20g of chia seeds. However, this does not take into account the bioavailability of iron.

Sources:

Why are meat and blood red? The reason is the chemical reaction of iron with oxygen. Iron that we get from our diet comes in two different forms, heme or non-heme form. Iron in the heme form, highly bioavailable and easily absorbed, is found only in animal foods such as red meat. On the other hand, the non-heme form, found mainly in plant sources, has very poor absorption and bioavailability. Primarily for this reason, many vegans need to supplement their diet with iron to prevent developing anemia. Amongst the more important plant sources of iron are various kinds of seeds, nuts and legumes. As a supplement, iron is commonly found in the form of ferrous sulfate or ferrous gluconate.

Another interesting way to add more iron to your diet is to cook food in cast iron skillets, which are also free of harmful chemicals.

Did you know that?

Iron has been known for over 5000 years and its name originates from the Anglo-Saxon word "iron" and the Scandinavian "iren" for metal. The element symbol "Fe" comes from Latin word "ferrum" meaning iron.

The surface of Mars is red due to a large amount of iron oxide (rust) on its surface. Mars has also more than twice as much iron oxide in its crust than Earth.

Food
division

