

# Potassium (K)



**Potassium** belongs to the group of alkali metals, along with lithium and sodium. Due to its high reactivity, potassium does not occur naturally as a pure metal, but rather in a form of salts, either in sea water or as a mineral. As a pure metal, it oxidizes easily and burns violently in water, it is therefore stored in kerosine or mineral oil. It is the seventh most abundant element on Earth and the eighth most abundant in the human body.

**K**  
Potassium

$[Ar]4s^1$

Atomic number  
protons/electrons

**19**

Neutrons

(most common isotope)

**20**

Atomic weight

(amu)

**39.1**

Atomic radius

(pm)

**203**

## Functions/Health effect:

Together with sodium, it takes part in the sodium-potassium pump, the enzyme responsible for generating the electric potential and consequently the energy management at the cellular level. Acting as a sodium's counterpart, which pushes fluids inside the cell, potassium does the opposite, thus maintaining balance. The balance of these two minerals is therefore critical for human health. However, unlike magnesium or calcium, potassium is not very common as a food supplement, and its recommended daily dose is higher than what is usually consumed in the traditional Western diet.

## Sources:

Along with nitrogen and phosphorus, it is one of three macro elements needed for plant growth and health. It is taken up by plants in large amounts from the soil in the form of  $K^+$  ions. Eating adequate amounts of vegetables and leafy greens is therefore a great way of ensuring you get enough of this essential element. Spinach, avocado, sweet potatoes, bananas and mushrooms are just some of the sources on the list of potassium rich foods. In addition to plant sources, dairy products, and some fish such as salmon and cod, also contain potassium in adequate quantities.

Processed and fast foods, on the other hand, are very low in potassium and high in sodium, which creates an imbalance of these electrolytes in the human body.

A healthy adult should aim to consume 3,500 mg of potassium per day from foods. To put this into a perspective, that means eating almost 10 avocados a day. It is therefore not surprising that an average person does not get enough potassium from their diet. Fortunately, potassium is part of many other foods!

## Did you know that?

Potassium was first purified in 1807 by Cornish chemist Humphry Davy from caustic potash (KOH). It was the first metal to be isolated using electrolysis. While the English word potash is also the origin of this element's name, its abbreviation K stands for the Latin word kalium.

Potassium superoxide ( $KO_2$ ), an orange solid, is used as a portable oxygen source in submarines, spacecrafts, and mines. It releases oxygen and absorbs carbon dioxide, thus providing a steady source of breathable air.

Food  
division

