

# Oxygen

**Oxygen** (O<sub>2</sub>) is one of the main biogenic elements found in the organism. It is the second most abundant gas in the Earth's atmosphere (it is represented here approximately 21%). Atmospheric oxygen is used by the vast majority of organisms as an oxidizing agent for most of the metabolic processes that take place in the body.

Oxygen differs in its properties from other elements placed in VI.A

## Occurrence of oxygen

Oxygen is the most abundant element in the earth's crust (around 49%). Bound is contained in water, in many inorganic and organic substances. It is a biogenic element - it is contained in living organisms and plants.

## Physical properties

It is a colorless gas heavier than air. At a temperature of -183 °C it condenses to a blue liquid. It forms O<sub>2</sub> molecules on the one hand, and O<sub>3</sub> three atomic molecules on the other hand - ozone. Atomic oxygen O is analogous to atomic hydrogen.

Oxygen is made up of three isotopes:

<sup>16</sup><sub>8</sub> O 99,8%

<sup>17</sup><sub>8</sub> O 0,04%

<sup>18</sup><sub>8</sub> O 0,16%

## Chemical properties

Oxygen is very reactive, especially at higher temperatures it combines with almost all elements. Elements that resist are halogens, some noble metals and noble gases.

The rapid oxidation of substances by oxygen or other oxidizing agents with the development of heat and light is called burning, which occurs only after the substance is heated to the so-called ignition temperature.

## Binary oxygen compounds

This group includes oxides, hydrogen peroxide and metal peroxides. Oxides are binary compounds of oxygen with other elements in which oxygen has an oxidation number of -II. And it is their more electronegative component.

## Links

### Related articles

- [Basic reactive forms of oxygen and nitrogen](#)