

THE VALUE AND QUALITY OF WATER

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ANNOTATION

The main role of water in the biosphere is that it is a medium and a source of hydrogen for life processes. It can be argued that all living things consist of water and organic substances. The article highlights the great importance of water for life on earth and the quality of bottled drinking, key, mineral, and iodized water. As well as their chemical content.

Keywords: hydrogen source, vital processes, fresh water, underground sources, maximum permissible concentrations, artesian, iodized water.

INTRODUCTION

Water plays an important role in the historical process of geological transformation of the entire planet. Without water, the Earth would be a stone ball, devoid of soil and atmosphere. But the most important role of water in the biosphere is that it is a medium and a source of hydrogen for life processes. The sea was the first arena of life on Earth.

It can be argued that all living things consist of water and organic substances. To ensure a normal existence, a person must inject water into the body 2 times by weight than nutrients. The loss of more than 10% of water by the human body can lead to death. On average, the body of plants and animals contains more than 50% water, 95-99 in algae, 7 to 15% in spores and seeds. At least 20% of water is in the soil, while water in the human body is about 65%.

There was much less water in the primary water shell of the globe than there is now. An additional amount of water appeared subsequently as a result of the release of water that is part of the earth's interior. According to experts, the composition of the Earth's mantle contains 10 times more water than in the world's oceans. With an average depth of 4 km, the World Ocean covers about 71% of the planet's surface and contains 97.6% of the world's known reserves of free water. Fresh water makes up less than 3% of the total amount of water on Earth. Most of it is preserved in the form of glaciers in sparsely populated and remote areas of our planet.

In different regions of the country, either water from underground sources (wells) or from surface sources – rivers, lakes, reservoirs - can be supplied to the water supply system. Surface water is more susceptible to pollution: wastewater from enterprises and farms can enter reservoirs, acid rain can fall, microscopic algae and even pathogens can multiply in it. But such water is purified more thoroughly: at special water treatment plants, it is passed through filters, pollutants are bound to coagulant substances, and before being supplied to the water supply, they are disinfected, killing microorganisms. Water from artesian underground springs is usually cleaner. But it contains more dissolved calcium and magnesium salts, i.e. it is more rigid. And they clean it, hoping for natural purity, not always thoroughly. But sometimes

pollutants penetrate very deeply through cracks in rocks. Before being supplied to the water supply system, the water quality is monitored – it must comply with the State Standard, which specifies the maximum permissible concentrations (MPC) for various pollutants. MPC is a safe level of pollutants: if any substance is contained in a concentration lower than the maximum permissible concentration, such water can be consumed. The main indicator of water quality is its effect on human health. Bottled drinking water. The International Bottled Water Association (IBWA) gives this definition: "Water is considered bottled if it meets state standards, hygienic requirements for drinking water, is placed in a hygienic container and sold for human consumption. At the same time, it should not contain sweeteners or additives of artificial origin; flavors, extracts and essences of natural origin can be added to bottled water in an amount not exceeding one percent by weight."

Key (spring) water is extracted from underground sources, through which it flows independently to the surface of the earth.

Artesian water is water from an aquifer in which its level is slightly higher than the upper water layer (artesian well).

Which water is better: artesian or spring water? There are different opinions on this. Some experts believe that artesian water is cleaner because it is extracted from deep layers where no dirt can penetrate.

Others argue that spring water has always been considered the most delicious and useful, and it retains all its useful properties, since it independently comes to the surface of the earth. You can determine where the water came from by reading the information on the label.

Mineralization of drinking water. Bottled water can be considered a dining room. The total mineralization of such water according to Sanitary Rules and drinking water Standards should not exceed 500 mg/l.

The chemical content of the water. Fluoride water contains more than 0.001 grams of fluoride per liter. It is recommended for pregnant women, people suffering from osteoporosis, as well as those who live in areas where tap water is not fluoridated. It is contraindicated for adults and children taking fluoride tablets, or living in an area where tap water is fluoridated.

Iodized water contains 40-60 micrograms per liter. It is recommended for people suffering from thyroid enlargement, stress, immunodeficiency, osteochondrosis, edema, gynecological diseases. There are no contraindications.

Calcium water contains more than 0.15 grams of calcium per liter. It is recommended for people who do not consume milk, pregnant women, as well as children and adolescents. There are no contraindications.

Sulfate water contains more than 0.2 grams of sulfates per liter. It is recommended for those who have liver problems, in addition, such water has a laxative effect. It is contraindicated in children and adolescents, because sulfates can interfere with the absorption of calcium, which means the formation of bones.

Magnesium water contains more than 0.05 grams of magnesium per liter. It is recommended for constipation, as well as in stressful situations, since magnesium is involved in the mechanism of regulating the body's response to stress. It is contraindicated for people prone to stomach disorders.

Bicarbonate water contains more than 0.6 grams of bicarbonates per liter. It is recommended for people who are actively involved in sports, infants, and patients with cystitis. It is contraindicated for gastritis sufferers.

Sodium water contains more than 0.2 g of sodium per liter. It is recommended for constipation and poor digestion. It is contraindicated for hypertensive patients and those who are recommended a low-salt diet.

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