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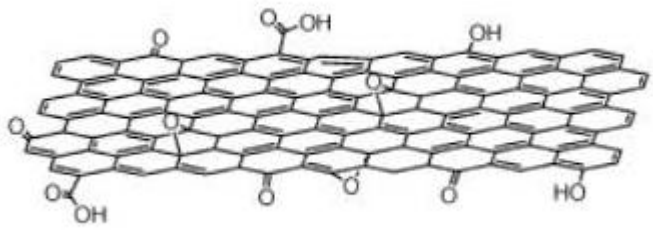
NEW METHODS OF WATER FILTRATION

Water is the main element of our lives. Without it, nobody could evolve or survive. Nowadays, we have only 3% of drinking water. The rest is seawater, which cannot drink by living organisms. Large enterprises pollute the water, small people throw garbage into the oceans, moreover, the main danger is not only chemicals, but also namely plastic. Hazardous chemical elements pass into the aquatic environment and it is a particular danger. After a long time in water, it begins to decompose into small parts and it continues until it becomes completely petty. As we know small particles are harder to catch and filter out of the ocean. All of these factors are going to create an ecological danger for everyone. However, there is a solution.

Graphene is a material that solves many issues of the topics of electrical conductivity, weight reduction, heat transfer, and many others. But he has another property - the ability to filter. In its structure, graphene is a thin, monatomic layer of crystalline carbon that has the form of connected hexagons. You can get acquainted with its view of Figure 1. At the moment, there is no technology that will allow graphene to be obtained on a large scale, so all this material will be produced only in laboratories, very long and with high prices. However, recently, based on knowledge of "pure" graphene, scientists have created a variety of this material that is cheaper and easier to create - "soy graphene." The technology of its production is based on the use of soybean oil. The oil is heated to a certain temperature and it releases carbon. With a sharp cooling of gaseous carbon it can be applied to nickel foil.



This graphene has decided to use as a membrane of a conventional filter for water purification. To check the opportunity of work, scientists decided to filter salty water from the ocean. An experimental study showed that water was completely purified from the first filtration. That is precisely what solves the problem of drinking water. According to UN data till 2025, 14% of humanity will fill lack of clear water. Another great plus of this technology, after cleaning the membrane analysis showed that it clogs more slowly than the same existing analogues in the world. Which makes it possible to reuse and not rarely replace the membrane. This makes it possible to save money.

Summing up, this technology allows us to address the issue of water scarcity in many regions of our planet, saving thousands of lives and clearing the Earth from garbage. From a financial point of view, graphene is based on soybean oil cheaper than pure graphene. That`s why it is easy to realized from economical side. Moreover, the

term and quality of the filter work are times larger than the rest of the cleaning technology.

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