

On Increasing the Efficiency of Household Wastewater Treatment

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Abstract: The proliferation of water supply networks, the provision of hot water to the population, gas supply to each household spontaneously increase the daily water consumption per capita and the emergence of an excessive amount of domestic wastewater. If biological suspensions contain pathogenic microbes, viruses, parasites and their eggs, they can pose an epidemic risk.

Therefore, it is important to provide high-quality wastewater treatment at urban wastewater treatment plants.

The increase in housing and sewerage, water supply networks, hot water supply, gas supply to every household will increase the daily water consumption per capita and increase the amount of household wastewater.

Household wastewater is one of the main pollutants in open water bodies. The reason is that 80% of the city's water supply is provided to households. Household wastewater carries a large amount of inorganic and organic matter, biological contaminants, microorganisms, viruses, and helminth eggs. If such waste water is not treated, but is poorly treated, disinfected and discharged into water bodies, it becomes a source of disease, and in recent years, many elemental detergents have been used for laundry. Attempts to clean them are futile because water treatment plants do not have the capacity to clean them.

Wastewater with such a composition forms sediments that decompose in water bodies. If biologically active substances contain pathogenic microbes, viruses, parasites and their eggs, they can be dangerous from an epidemic point of view.

Bacteria that can be excreted through contaminated water include cholera, vibrio, bacillus dysentery, typhoid fever, paratyphoid, gastroenteritis, pediatric diarrhea, leptocytosis, and tularemia. There were times when the plague caused by El-Tor posed a number of endemic threats.

It should be noted that a report by the World Health Organization states that every eight seconds a child dies from contaminated water consumption.

It has now been scientifically proven that 40% of all diseases in the world are transmitted through poor quality water.

According to the August 22, 1997, issue of Awakening magazine, 400,000 people became ill after drinking water in Wisconsin in 1993, and "clean" water was found to contain chlorine-resistant microbes such as Washington's "Shunton." , Has also been identified in the drinking water of Missouri cities. After that, Americans drank boiled water. The problem of fresh water is felt all over the world, as well as in our country. We know that in the region of the Central Asian republics, the irrigation system is very well developed hydro-ameliorative processes. Therefore, the Amu Darya, Syr Darya, Zarafshan, Kashkadarya, Surkhandarya, Chirchik and other water basins are used to irrigate large areas.

Assuming that 100% of the water used in all sectors of the economy is used, 85% of it is used for the needs and development of agriculture, 12% is received by industrial enterprises, and 3% is used by

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public utilities. This means that the main water consumption is used to irrigate agricultural crops.

Water consumption is closely linked to development, the cultural level of the population, and the well-being of the population. It is around 30 liters.

It is known that wastewater enters the external sewers through the internal sewers. It then flows with its own flow from the system of pipes and canals to pumping stations or treatment facilities.

In addition, rainwater, meltwater and other wash water from residential areas and industrial sites are discharged into separate collectors before sewage treatment plants, and general water is discharged to sewage treatment plants.

Separate sewer stations will be built in large cities. The separate sewerage system consists of two underground networks: one for domestic water and secondary rainwater, as well as for the collection of water from the city squares and streets. A fully sewerage system is flushed with rainwater, snow and other wash water through ditches and ditches, while household wastewater is discharged into a separate sewerage system. In case of floods, water distribution chambers will be installed to reduce the work of the general sewerage system, and excess water will be discharged into open water basins. Wastewater is discharged into the treatment facilities, dissolving suspended solids, mud, sand and soil encountered on the road. Therefore, the composition of municipal sewage is not uniform.

Harmful pollution in wastewater samples is determined by 60%, the biochemical requirement of water for oxygen and the amount of oxygen used for chemical detection of organic matter. The full biochemical needs of water for oxygen are known in 5 or 20 days. Wastewater has a pH of 7.2-7.6 and decomposes when left standing. In assessing them, attention is paid to the following indicators: organoleptic properties of water, oxidation of suspended solids, BPK, ammonium nitrogen, nitrate retention. Nitrite and nitrates indicate the nitrification process in water, ie the conversion of organic matter into mineral inorganic matter.

In addition, the presence of chlorides in water samples is noted. It is known that wastewater poses a risk of the spread of various infectious diseases. This is because they contain a large number of bacteria, helminth eggs, and various viruses. For example, 1 ml of wastewater contains millions, tens, hundreds of millions of bacteria, and a liter of *Escherichia coli* contains 10.5-10.7 hectares and more. Hundreds of helminth eggs are detected in 1 liter of water.

At the same time, the wastewater contains substances necessary for mineral fertilizers for agriculture. The challenge for treatment facilities is to isolate these substances and help them to be used wisely in agriculture.

One of the most important problems should be known to the population by the centralized water supply agencies, sewerage, control organizations, public utilities, the Ministry of Health, the Committee for Nature Protection and its local branches, and others. This limits the use of open water bodies by the population as a source of water. Such waters become a source of infectious diseases. Suspension of water; The rocks form submerged sediments, creating an additional source of water pollution. Oxygen consumption for the decomposition of organic matter in water increases. If more oxygen is used in the water, the substances in the water will decompose and smell when used in the water.

Therefore, it is important to improve the quality of municipal wastewater treatment facilities.

The main tasks in the treatment of municipal wastewater:

1. Separation of suspended minerals and organic matter from wastewater as much as possible (mechanical treatment, use of coagulation methods, etc.);

2. Drainage of water from colloids and dissolved organic matter in wastewater (using biological methods);
3. Removal of wastewater from pathogenic microorganisms in the water (neutralization);
4. Decontamination of wastewater and its use in various areas of agriculture.

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