

## BIOTECHNOLOGY OF BIOLOGICAL AND CHEMICAL TREATMENT OF WATER FROM THE FACTORY OF BUKHARA OIL REFINERY

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### ABSTRACT:

**Wastewater is often used in oil refining, and the waste product of petroleum products is discharged into the sewage system. As a result, wastewater is damaged and rendered unusable. Not only water but also aquatic organisms and plants are killed or damaged. In recent years, the creation of waste-free biotechnology is one of the current challenges. This article discusses the biological and chemical treatment of wastewater from an oil refinery.**

**KEYWORDS: Water treatment, sewage, industrial enterprises, domestic enterprises, technology, biological treatment, biotechnology.**

### INTRODUCTION:

Water treatment is a set of technological processes designed to regulate the quality of water entering the water supply system from water sources (rivers, lakes, reservoirs, reservoirs, etc.). This includes wastewater treatment from industrial and domestic enterprises. It is carried out with the help of engineering structures in water supply and sewerage systems, enterprises, as well as by biological and chemical methods.

Surface natural water sources (rivers, lakes, etc.) are cooled, refined, and

decontaminated before they are discharged into the pipeline. During treatment and clarification in treatment plants, suspended and colloidal particles are submerged in water, treated with aluminum sulphate and ferric chloride in special containers, and the water is filtered through gravel, sand, and sometimes porous ceramics. To disinfect clear water (kill various microorganisms and viruses), liquid or gaseous chlorine, hypochlorites - NaClO, Ca (SYU) 2 and chlorine dioxide S1O2, chlorinated lime are added to neutralize distilled water and groundwater, as well as ozone and Ultraviolet rays are also used. Mercury-quartz or argon-carbon lamps are used. If the water is hard (the total amount of calcium and magnesium salts is higher than normal), it will soften. Groundwater is often de-ironed by aeration (enriched with atmospheric oxygen). Lime, sodium aluminate NaAlO<sub>2</sub>, and sometimes burnt dolomite are used to desilicize water (to reduce the amount of metasilicic acid H<sub>2</sub>SiO<sub>3</sub> and its salts). It is desalinated or ionized to remove other dissolved salts in the water. desalinated. Water is degassed to remove hydrogen sulfide, methane, radon, carbon dioxide and other dissolved gases. To reduce fluoride in the water, the water is filtered through activated alumina. If water is found to contain radioactive substances, it is decontaminated. If the water has an unpleasant odor, it is treated with activated charcoal,

ozone, potassium permanganate or chlorine oxide.

Sewage treatment (industrial, domestic and residential wastewater) and stormwater treatment are important parts of nature conservation. Mud, colloids and dissolved substances in wastewater are precipitated in clarifiers, harmful substances are neutralized by biological methods, and wastewater is treated at treatment plants. There are also physicochemical, thermal and other methods of water purification.

At a number of industrial enterprises in Uzbekistan, a large number of different industrial wastes, especially wastewater from the separation of gold and other metals, are unusable, stored in special basins, and their volume is increasing year by year, occupying large areas. . As a result, the protection of the environment, the creation of environmentally friendly technologies for industrial wastewater treatment remains one of the most pressing issues of modern biotechnology. Therefore, the development of effective and inexpensive methods of wastewater treatment is one of the pressing issues of modern biotechnology. At present, the wastewater generated during the production process is still not treated and stored in special basins. This requires the development of environmentally friendly wastewater treatment technologies.

In our country, various industrial and industrial wastewater is treated with the help of representatives of higher aquatic plants, algae, *Bacillus*, *Pseudomonas*, *Bacillus cereus*, *Bacterium megaterium* and other bacteria, *Pseudomonas fluorescens* B-5040 (from pesticides, phenols, cyanides, heavy metal salts). ) cleaning methods are developed. In Russia, gold refineries have purified wastewater by adding ammophos as a food source and using the *L. minor*. The physical, chemical, biological, microbiological processes of wastewater treatment with the help of

higher aquatic plants - ryaska, azole, pistachio and eucalyptus, ion metabolism, accumulation in plant tissues were studied.

Biotechnology of wastewater treatment using higher aquatic plants has several advantages: first, the use of municipal wastewater instead of drinking water to dilute cyanide and rhodanide wastewater; second, no additional nutrient medium is required to grow eucalyptus, pistachio, ryaska, and azole; thirdly, the actual cost of treatment of municipal wastewater (labor, electricity, treatment facilities, disinfectants, etc.) will be saved; fourth, the biomass of higher aquatic plants grown in the treatment plant can be used to produce non-conventional energy sources (biogas, bioethanol, biodiesel); and finally, from the fifth treatment plant, the water treated with the help of high aquatic plants can be used for liquefaction of wastewater, for technological purposes in the enterprise or for irrigation of protective trees around the treatment plant.

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