BIOTECHNOLOGY OF UTILIZATION OF MUNICIPAL WASTEWATER SEDIMENTS

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Analysis of information on air-conditioning contaminated with heavy metals sludge municipal wastewater points to the actual ecological and chemical problem and its solution could be implemented within the framework of the biological process involving heterotrophic microorganisms.

Information on the spread, toxicity, biochemistry, microbiology, colloidal and chemical properties of sludge sediments of municipal wastewater biological treatment is given in the review. These sediments contain vitamins, amino acids, organic matter, heavy metals (micro- and macroelements). Therefore the most rational approach to sludge wastes utilization is their use as an agricultural fertilizer after partial removal of heavy metals. Hence, the interaction of sludge components with heavy metals, modern methods of their removing from biocolloidal systems and biotechnologies of conversion of sludge wastes into fertilizer based on the enhancing of vital ability of sludge biocenoses are discussed.

**Key words:** active sludge, heavy metals, sorption, desorption, fertilizer.

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