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THE HYDROGEN PEROXIDE AS AN ENVIRONMENTALLY ACCEPTABLE SLURRY DISINFECTANT

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Hydrogen peroxide is used more and more as the water and wastewater disinfectant. Its advantages over other oxidants are nontoxic, harmless, environmentally acceptable byproducts. The basic task in the disinfection of slurry is to destroy or remove infectious microorganisms so that the slurry can not transmit disease producing biologic agents, when disposed on the land.

In the present study the effect of hydrogen peroxide disinfectant with and without catalytic action of metal (ferrous and silver) ions was investigated in the hygienization process of slurry.

In order to determine the optimal concentration of disinfectant, the effect of a range of final concentrations of hydrogen peroxide alone and with metal ions was investigated. Organoleptic, physicochemical and bacteriologic parameters were analysed for wastewater quality assessment in accordance with standard methods.

The investigations resulted with improving of organoleptic properties: color, turbidity and odour, oxidation of organic matter across the minimized consumption of $KMnO_4$, reduction of BOD_5 and nitrogen compounds as well as in the decrease number of aerobic mesophilic bacteria and total coliform bacteria.

This investigation showed that the disinfection of slurry with an oxidative compound with hydrogen peroxide basis and catalytic action of metal ions can be recommended for its bactericidal and oxidative effect.