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AN EVALUATION OF APPLICABILITY OF PHYSICO-CHEMICAL THIRTIARY TREATMENT OF DOMESTIC WASTE IN A REGION OF TEHRAN, IRAN

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Abstract:

The Purpose of this study was comparison of applicability of tertiary treatment of Tehran domestic sewage with organic and inorganic coagulants or a combination of them. The jar test procedure was applied utilizing: alum, polyelectrolyte WT 2600, anionic Polyelectrolyte WT 3000, and nonionic polyelectrolyte WT 2690 as organic coagulants (products of Calgon). The combination of lime with each of the organic coagulants WT 2600 and WT 3000 was subsequently used in jar test analysis. The optimum pH and optimum dosage of each coagulant were determined, based on the removal of turbidity, COD, and suspended solids. The removal of various parameters including COD, and suspended solids, algal nutrients, metals, bacteria, alkalinity, turbidity, and color were assessed by applying of optimum dosage of each coagulant in an evaluation of final selection in physico- chemical treatment. Lime was considered the most suitable among the polyelectrolytes, but combination of lime and polyelectrolytes was comparatively ruled out.

Keywords:

Physico-chemical treatment , Domestic waste

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