

TREATMENT OF DYE PULP AND SYNTHETIC RESIN PROCESSING WASTEWATER BY ACTIVATED SLUDGE COMBINED WITH POWDERED ACTIVATED CARBN

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ABSTRACT

Wastewater discharges coming from the dye, pulp and synthetic resin industry contain a multitude of difficult biodegradable compounds. The wastewater can be characterized as a highly variable, highly colored wastewater which is typically high in COD and organic concentration.

The main purpose of this research is to evaluate the treatability of the organic wastewater by using chemical coagulation and flocculation and activated sludge with powdered activated carbon treatment processes. This work is also to explore the biocarbon reaction mechanisms in the biophysical reactor.

The experimental results show that the dye, pulp and synthetic resin processing wastewater treated by powder activated carbon sludge treatment is superior in sludge yield coefficient, organic materials adsorbed on powder activated carbon, resistance to shock loads and COD removal to conventional activated sludge treatment.

This experimental also demonstrates that after the treatment of the dye, black liquor and synthetic resin wastewater by powdered activated carbon sludge method the effluent discharges meet the permit set up by the environmental protection agency of R.O.C.

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