

## A Polynomial Relationship for Prediction of COD Removal Efficiency of Cyanide-Inhibited Wastewater in Aerobic Systems

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**Abstract :** The presence of cyanide in wastewater is known to inhibit the normal functioning of bio-reactors since it has the tendency to poison reactor micro-organisms. Bench scale models of activated sludge reactors with varying aspect ratios were operated for the treatment of cassava wastewater at several values of hydraulic retention time (HRT). The different values of HRT were achieved by the use of a peristaltic pump to vary the rate of introduction of the wastewater into the reactor. The main parameters monitored are the cyanide concentration and respective COD values of the influent and effluent. These observed values were then transformed into a mathematical model for the prediction of treatment efficiency.

**Keywords :** wastewater, aspect ratio, cyanide-inhibited wastewater, modeling

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