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BIOSORPTION OF CR (VI) BY RESTING CELLS OF ASPERGILLUS SP.

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Abstract:

Biosorption of Cr(VI) from aqueous solution was studied in a batch bioreactor using the resting cells of filamentous fungal biomass (Aspergillus sp.) isolated from industrial wastewaters. The specific Cr(VI) removal (mg/g of dried biomass) decreased with increase in pH and increased with increase in initial Cr(VI) concentration, upto 500 mg/L. By increasing biomass concentration from 2.4 to 5.2 g/L, the specific metal removal remained almost constant. The studies carried out by using the resting cells from various stages of growth indicated maximum Cr(VI) removal of 34.8 mg/g using the biomass from the beginning of the stationary phase. The adsorption equilibrium constants Q^o (42.9 mg/g) and b (0.0091/mg) were obtained from the Langmuir adsorption isotherm model.

Keywords:

Aspergillus sp. ، batch biosorption ، chromium (VI) ، Langmuir adsorption isotherm ، resting cells

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