

### Immobilization of *Escherichia coli* on Chitosan and the effect of Ephemichlorohydrin as cross-linking agent on adsorption of reactive dye

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Chitosan is the deacetylated form of chitin, which is a linear polymer of acetylamin-D-glucose and contains high content of amino and hydroxyl groups.

Some attractive feature of chitosan includes its abundant availability, non-toxicity, hydrophilicity, biocompatibility, biodegradability, and anti-bacterial property. Moreover, chitosan has very high sorption capacity on reactive dyes.

A large quantity of *Escherichia coli*(*E.coli*) biomass used in industrial fermentation for production of amino acid.

Due to the high amount of functional groups ,such as, amino, carboxyl, phosphate on the surface of *E.coli* biomass , it pose to be an attractive candidate for biosorption process.

In this study, *E.coli* biomass was immobilized using chitosan. The immobilized sorbent, beads were cross-linked using Ephemichlorohydrin(ECH). The sorption capacity of each sorbent was tested and compared for reactive dye (reactive yellow 2).