

## BIOREMEDIATION OF INDUSTRIAL EFFLUENTS WITH HEAVY METALS USING IMMOBILISED MICROALGAE

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### ABSTRACT

The present investigation was carried out to treat industrial effluents containing heavy metals and other toxic compounds using freshwater lake isolated algae. In the current study, two freshwater algal species *C. vulgaris* and *Scenedesmus abundans* were immobilized by encapsulation with sodium alginate with a measured pore size. These immobilized algae were subjected to industrial effluents for bioremediation. Parameters like temperature pH turbidity nitrates sulphates and heavy metals such as iron aluminum and copper were determined initially at day zero and on the 30th day of inoculation. Artificial wastewater with known parameters was used as a standard. Among the species studied *C. vulgaris* possessed the greater affinity for adsorption resulting in the higher uptake. *C. Vulgaris* showed more positive values reducing the concentration of nitrates, sulphates, metals like iron, aluminum, and copper which were seen to be treated in both the water samples i.e. industrial effluent and artificial wastewater. *Scenedesmus abundans* also showed positive results but lesser when it is compared with *C. vulgaris*.

**KEYWORDS:** Bioremediation, Encapsulation, Industrial Effluent

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