

## METAL REMOVAL FROM ERBIUM -CONTAINING WASTEWATER USING ARTHOSPIRA PLATENSIS

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Erbium belongs to rare earth elements critical for industry, especially nuclear technology. Cyanobacteria *Arthospira platensis* was used for Er(III) removal from wastewater by applying biosorption and bioaccumulation processes. The influence of pH, Er(III) concentration, contact time and temperature on the biosorption capacity of *Arthospira platensis* was determined. The optimal conditions for Er(III) removal were defined as pH 3.0, time 15 min and temperature 20 °C, when 30 mg/g of Er(III) were removed. The kinetics of the process was better described by the pseudo-first-order model, while equilibrium fitted to the Freundlich model. In bioaccumulation experiments, the uptake capacity of biomass and Er(III) effect on biomass biochemical composition were assessed. It was shown that Er(III) in concentrations 10–30 mg/L did not affect the content of biomass, proteins, carbohydrate and photosynthetic pigments. Its toxicity was expressed by the reduction of the lipids content and growth of the level of malonic dialdehyde. Biomass accumulated 45–78% of Eu(III) present in the cultivation medium. Therefore, *Arthospira platensis* can be considered as a safe and efficient bioremediator of erbium contaminated environment.