

**SORPTION OF ARSENIC(V) BY A  
La-POLY(HYDROXAMIC ACID) RESIN COMPLEX**

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**ABSTRACT**

This article reports the use of lanthanum loaded poly(hydroxamic acid) chelating resin (LaPHA) for removal of arsenic ions. The resin was an effective sorbent for As(V) between initial pH 3 and 6 and the As removal was followed by increase in pH from the initial pH values. Since the virgin PHA resin did not remove As(V) ion significantly the mechanism of removal should involve the lanthanum ion on the resin. Sorption follows first order kinetic with a rate constant of  $5.0 \times 10^{-3} \text{ min}^{-1}$ . Isotherm studies show the applicability of the Langmuir model for the sorption with maximum sorption capacity of 0.62 mmol/g and Langmuir constant of 0.109 L/g, respectively. The resin is not selective for As(V) when phosphate and sulfate anions were presence in the solution at a similar concentration. However, no significant interference was observed from chloride and nitrate ions. The ability of the La-PHA resin to remove arsenic ion was tested on wastewater samples from wood treatment industry. Beside arsenic the resin also removes chromium and copper from the samples.