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Authors: Fernando A. Bertoni, Juan C. González, Silvia I. García, Luis F. Sala, Sebastián E. Bellú



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Application of chitosan in removal of molybdate ions from contaminated water and groundwater

Fernando A. Bertoni^{a,b}, Juan C. González^{a,b}, Silvia I. García^{a,b}, Luis F. Sala^{a,b}, Sebastián E. Bellú^{a,b,*}

^aÁrea Química General e Inorgánica, Departamento de Química-Física, Facultad de Ciencias Bioquímicas y Farmacéuticas, Universidad Nacional de Rosario, Suipacha 531, S2002LRK Rosario, Santa Fe, Argentina

^bInstituto de Química de Rosario-CONICET, Suipacha 570, S2002LRK Rosario, Santa Fe, Argentina

*Corresponding author at: Universidad Nacional de Rosario, Facultad de Ciencias Bioquímicas y Farmacéuticas, Suipacha 531, S2002LRK Rosario, Santa Fe, Argentina. Tel.: +54 341 4350214; e-mail addresses: bellu@iquir-conicet.gov.ar, sbellu@fbioyf.unr.edu.ar (S.E. Bellú).

Highlights

Chitosan polymer is a good sorbent for Mo^{VI} removal.

The maximum sorption capacity was found to be $265 \pm 1 \text{ mg g}^{-1}$.

Hydroxyl groups were responsible for Mo^{VI} sorption.

The critical bed depth, Z_0 was determined to be 0.77 cm.

Chitosan can be applied in removal of molybdate from real groundwater samples.

Abstract

Water pollution by heavy metals represents a serious problem around the world. Among various treatment techniques for water remediation, adsorption is an effective and versatile method due to the low cost, effectiveness and simplicity. Chitosan is a cationic polysaccharide with an excellent adsorption capacity of

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