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## Kinetics of the cadmium uptake by a thiourea-modified natural clinoptilolite

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To treat aqueous solutions with $Cd^{2+}$ concentrations up to 67.83 mg/L experiments were carried out in a batch system where a natural modified zeolite from guaymas, Sonora, Mexico, was used as the adsorbent. The zeolitic material was modified with NaCl and thiourea. The experimentation was conducted at a pH=5.0. The results were compared to a study where the initial concentration for the zeolite modified with thiourea was 37.3 mg/L. Kinetics showed that the zeolite modified with NaCl and thiourea is best described according to pseudo-second order model, $R^2$=0.9997, with a $k_2$=0.763 g/(mg h) and $q_e$=6.238 mg/g reached at 5 h. Compared to the non-modified adsorbent the thiourea-modified clinoptilolite improved its capacity to take up cadmium significantly.

### Biography

Perfecto Barragan-Pena is currently a Professor at Instituto Tecnologico de Nogales, Mexico. He has a Doctorate in Environmental Sciences and has worked on sorption processes in both batch and dynamic systems, using natural adsorbents such as zeolites. Currently he teaches sustainable development and inferential statistics.

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