Characterisation and Use of Mesoporous Silicates fo Removal of Organic Compounds from Aqueous Solutions. (S09-kelleher074450-Poster)

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Abstract:

A cubic mesoporous silicate was prepared, characterized and asessed as an adsorbent for tetramethyl ammonium hydroxide from aqueous solution. The adsorption process was studied as a function of temperature and time. Sorption closely followed the Langmuir model. The adsorption of tetramethyl ammonium hydroxide was endothermic and kinetic studies suggest that the overall rate of adsorption was pseudo second order. Pore diffusion effects contribute to limiting the overall rate of adsorption while at lower initial concentrations, film diffusion becomes more important. Desorption studies were carried out using water and methanol. Methanol was the superior desorbing agent.

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