

## Diffusion Characteristics of Solute in Ca-Alginate Hydrogels

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Ca-Alginate gel beads are used in many applications as matrices for release or immobilization. Ca-Alginate beads were prepared with either external or internal calcium source. The diffusion behaviour of both beads were investigated. Diffusion characteristics of polyethyleneglycols (PEG) through Ca-alginate gel beads were studied and compared to diffusion of VB12, a small molecule. The results were compared with the theoretical effective solute diffusion coefficients in gel beads of different alginate concentrations and calcium ionic concentrations. The release experiments are operated with three different methods. Some proposed models demonstrates can provide a clear explanation of the phenomenon observed for solutes.