

Application of the Algerian diatomite in adsorption of diclofenac

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Abstract : Mesoporous amorphous silica of non-toxic nature has interesting properties, in particular, its relatively large surface area, pores with adjustable diameter and abundant Si-OH bonds. The functionalization of this silica transforms it into an ideal candidate for biological applications such as cell marking, gene transfection or as contrast agents in MRI and especially in drug delivery systems. In this study, we try to use a natural amorphous silica: Algerian diatomite, for encapsulation and carrier of Diclofenac (DS), in this order, diatomite must be purified; the choice of purification mode plays an important role in the organization and volume pore of the final product. We use hydrochloric acid HCl (1%, 10%, 20%) for oxide removal, and then we test the treated diatomite in the absorption of the DS.

Keywords : diatomite, mesoporous, absorption, diclofenac sodic, drug carrier, encapsulation