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# Synthesis, Characterization and Comparative Evaluation of Guar Gum Mixed Ester in the Formulation Development of Diclofenac Sodium Enteric Coated Tablet

Makarand V. Puri\*, Sagar D. Kore, Ashish Chimbalkar

Siddhant College of Pharmacy, Sudumbre, Pune, Maharashtra, India. 412109

**Abstract: Objective:** The present research work was aimed to synthesize & compare the release retardant properties of galactomannan esters i.e. guar acetate and guar acetate maleate synthesized from naturally occurring guar gum.

**Method:** Guar acetate maleate was synthesized from esterified galactomannan i.e. guar acetate. The films of guar acetate & guar acetate maleate were casted by mercury substrate technique. An evaluation of both polymeric films was performed. Diclofenac sodium tablet was formulated with these polymers as release controlling excipient, and dissolution studies were performed to assess the controlled release property of the polymers.

**Result:** Guar acetate maleate was evaluated for different parameters. The drug polymer compatibility study depicted no interaction between the synthesized polymers & diclofenac sodium. In vitro dissolution profile shows the drug release is pH dependent which releases drug in basic pH.

**Conclusion:** The assessment of in vitro dissolution profile shows that drug was released when pH of media was increased to make it alkaline. This property of synthesized polymer can be used to develop an enteric coated tablet.

**Keywords:** Diclofenac Sodium, Guar gum, esterification, enteric coated tablet.

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