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Dual Coated Microparticles for Intestinal Delivery of Nimesulide

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***SUMMARY*. Nimesulide was formulated as novel dual coated microparticles using chitosan (CTN) and ethyl cellulose (EC) as encapsulating materials for its improved delivery to the intestine and to prevent gastric irritation and increase patient compliance. The first coating was applied by chitosan using pH change method followed by second coating of ethyl cellulose using thermal change method. This process was analysed for its capability to produce microparticles of uniform size, good flowability, uniform drug loading and maximum entrapment efficacy and the absence of interaction between drug and process parameters as well as the polymers confirmed by XRD and FTIR analysis. *In vitro* release study was carried out in simulated gastric fluid (SGF) for first 2 h and simulated intestinal fluid (SIF) for next 6 h. The formulation M7 and M8 that contained chitosan and ethyl cellulose in the concentration of 1:1 and 1:2 (M1:EC) were found to achieve the targets of the present study such as uniform intestinal release of acidic drug and thus improves the patient compliance.**

KEY WORDS: Chitosan, Dual coating, Ethyl cellulose, Microencapsulation, Microparticles, Nimesulide.

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