

# Formulation and Evaluation of Floating Microspheres

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**Abstract:** *Gastro-retentive dosage forms have potential for use as controlled- release drug delivery systems. Gastro retentive floating drug delivery systems have a bulk density lower than that of gastric fluids and thus increase residence time of drug in stomach and provide controlled delivery of many drugs. The aim of the present study is formulation and characterization of floating microspheres using model drug. Floating microspheres were prepared by oil-in-water emulsion solvent evaporation technique using ethyl cellulose as release retarding polymers. The floating microspheres were evaluated for percentage yield (%), particle size, drug content, drug entrapment efficiency, in-vitro floating ability and in-vitro drug release studies. The surface morphology of prepared microspheres was characterized by scanning electron microscopy. The microspheres were found to be spherical in shape and porous in nature. Compatibility studies were performed by fourier transform infrared (FTIR) technique. The prepared microspheres showed prolonged drug release of 12 h and remain buoyant for more than 12 h. In-vitro release kinetics were studied in different release kinetics models like zero order, first order model. It was concluded that developed floating microspheres offers a suitable and practical approach for prolonged release of drug over an extended period of time and thus oral bioavailability, efficacy and patient compliance is improved*

**Keywords:** Gastro retentive drug delivery, Floating drug delivery system, Emulsion solvent evaporation method, Floating Capability

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