

Abstract

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Title of Thesis: Optimalization of microemulsion pre-concentrates suitable for encapsulation into soft gelatin capsules.

The theoretical part of this study focuses on microemulsions, liquid crystals and gelatin capsules. The scope of the experimental part was the preparation of a mixture for soft gelatin capsules. The mixture contained Maizin 35-1 and/or Polyglycerol-3-oleate as a lipophilic component in various amounts. The size of particles and the dispersity of the individual mixtures was measured by laser diffraction method (Mastersizer S). Furthermore, viscosity of the mixtures was investigated using rotational viscometer (Brookfield DV-II+ RV). Based on the results of the measurements of physical properties of the mixtures and their comparison, it was recognized that Polyglycerol-3-oleate in 42,07 % concentration is the best lipophilic component for emulgation into the microemulsion pre-concentrates for soft gelatin capsules. This concentration produces relatively small particles which have a narrow distribution and a small polydispersity. In the mixture with 40 % of water, Polyglycerol-3-oleate in 42,07 % concentration produces a highly viscous system usable in soft gelatin capsules.