ABSTRACT

The effect of technological parameters of preparation of biodegradable polyester nanoparticles on their size parameter was studied with PCS method. Nanoparticles containing terbinafine incorporated in branched polyester of aliphatic hydroxyl-acids. They were prepared by method of distribution ethylmethylketone as a solvent into the external phase of emulsion. It was found that the relation between the concentration of the emulsion, polyester concentration and concentrations of terbinafine in the internal phase of emulsion and the size of nanoparticles is not clear, a number of factors involve, such as collisions during dispersion, distribution speed of the solvent and viscosity. These factors can have opposite effects on the size parameters of nanoparticles. During storage of nanodispersions changes are made in the parameters of size distribution of nanoparticles affected by distribution of the solvents, swelling and erosion of carrier. After the addition of substances that reduce the polarity of the external phase of nanodispersion, the process of distribution is more intensive. Glycine, added to the outer phase as a carrier of nanoparticles during their drying, causes aggregation of nanoparticles without drug by linking of the terminal carboxyl of the carrier. With the presence of terbinafine in the nanoparticles this phenomenon does not occur because terbinafine is tied on the carboxyl end.