The Effects of Surfactant on the Magnetic Fluids for Biomedical Application

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There are many possibilities of applications of biocompatible magnetic fluids in biology and medical diagnosis and therapy, as for instance separation and purification of cells. Biocompatible magnetic fluids, highly stable in water medium at neutral pH and physiological salinity, may present a variety of biological effectors chemisorbed at the magnetic nanoparticles surface [1]. Also, the dispersibility of magnetic fluids are affected by the surfactant [2].

In this study, the effects of kinds of surfactants on dispersion characteristics were investigated when the water-based magnetic fluids were prepared by coprecipitation using surfactant such as $C_{10} \sim C_{18}$ fatty acid, starch and oleic acid. The biocompatible effect of magnetic fluids coated with each surfactant were also investigated to estimate the toxicity with rats.

References

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