408-035 In vitro biological properties of diglycidyl ether of glycerol/aliphatic diamines networks for medical applications.

Maria Fernanda Xavier Pinto Medeiros
Medeiros, M. F. X. P. 1; Queiroz, A. A. A. de 1; Garcia, F. G. 1/(1)UNIFEI

This work describes the in vitro biological properties of three epoxy networks based on diglycidyl ether of glycerol (DGE) cured with poly(oxypropylene) diamine (D230), isophorone diamine (IPD) and 4, 4'-diamino-3, 3'-dimethyl-diciclohexilmethano (3DCM). The biological interactions between the obtained epoxy polymers and blood were studied by in vitro methods. Studies on the protein adsorption, platelet adhesion, lactate dehydrogenase (LDH) activity and thromboresistance properties are presented. The protein adsorption assays onto polymeric surfaces showed that the DGE/IPD network adsorbed significantly more albumin than fibrinogen. The results about platelet adhesion, lactate dehydrogenase (LDH) activity and thromboresistance properties indicated that DGE/IPD and DGE/3DCM networks exhibits good hemocompatible behavior. In this way, we can assume that the epoxy polymers are biocompatible materials.