Pengembangan material elastomer termoplastik berbasis karet alam terdeproteinisasi dan monomer vinil secara kopolimerisasi cangkok emulsi = Development of material thermoplastic elastomer based on deproteinized natural rubber and vinyl monomers by emulsion graft copolymerization / Santi Puspitasari

Santi Puspitasari, author

Abstrak

[ABSTRAK
Sifat karet alam dapat ditingkatkan melalui modifikasi kimiawi secara reaksi kopolimerisasi cangkok emulsi karet alam terdeproteinisasi (DPNR) dengan monomer vinil (MV) tunggal maupun paduannya menggunakan inisiator ammonium peroksidisulfat dan surfaktan sodium dodesil sulfat menghasilkan karet alam termoplastik (TPNR). Reaksi dijalankan secara eksitu pada suhu 65ºC selama 5 jam dilanjutkan pada 70ºC selama 1 jam dengan teknik batch pada berbagai komposisi DPNR terhadap MV dan rasio paduan MV (stirena (ST) terhadap metil metakrilat (MMA)). Hasil penelitian secara umum menunjukkan bahwa TPNR yang disintesis dari DPNR dengan paduan MV menggabungkan sifat unggul TPNR yang diperoleh dari hasil reaksi DPNR dengan MV tunggal. Komposisi DPNR terhadap MV sebesar 60 : 40 dengan rasio ST terhadap MMA sebesar 2 : 1 ditetapkan sebagai kondisi teroptimum dalam reaksi kopolimerisasi cangkok emulsi pembentukan TPNR.
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ABSTRACT
Natural rubber properties can be improved by chemical modification such emulsion graft copolymerization of deproteinized natural rubber (DPNR) with either single or combination of vinyl monomers (MV) by using ammonium peroxydisulfate as initiator and sodium dodecyl sulfate as surfactant to produce thermoplastic natural rubber (TPNR). The reaction was run at 65ºC for 5 hours continued at 70ºC for an hour by exitu ? batch procedure at various proportion of DPNR to single MV and combination of MV ratio (styrene (ST) to metyl methacrylate (MMA)). Generally, the result showed that TPNR synthesized from DPNR and combination of MV integrated the prior properties of TPNR synthesized from DPNR and single MV. The proportion of DPNR to MV as 60 : 40 and ratio of ST to MMA as 2 : 1 were regarded as the best condition on emulsion graft copolymerization in the formation of TPNR., Natural rubber properties can be improved by chemical modification such
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