

## PRODUCTION OF LOW-MOLECULAR-WEIGHT NATURAL RUBBER: COMPARATIVE ASSESSMENT OF A NONCHEMICAL ROUTE

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### Abstract

The use of *Funtumia* latex and nitrobenzene as molecular weight depressants for natural rubber was studied. Portions of a given sample of natural rubber latex were treated with these materials, and this provided a means of ascertaining the amount of *Funtumia* latex in a blend with natural rubber that could produce a lowering of the molecular weight equivalent to that from known concentrations of nitrobenzene in natural rubber latex. The molecular weight of the products decreased to an equilibrium value after 10 h of reaction with nitrobenzene. The calculations revealed that a 27.9% substitution of natural rubber latex (300 mL) with *Funtumia* rubber latex achieved the same result as nitrobenzene in the same polymer at concentrations of 0.5–2.0 wt % of the dry rubber content of the latex after 10 h of reaction. © 2007 Wiley Periodicals, Inc. J Appl Polym Sci 2007.

### Keywords

*Blends; latices; modification; rubber; viscosity*