

<b>Thesis Title</b>	<b>A Study on Natural-Acrylic Rubber Blend</b>
<b>Thesis Credits</b>	<b>15</b>
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#### **Abstract**

This research has concerned a study on the effect of polyisoprene-poly(butyl acrylate) block copolymers on morphology and properties of natural-acrylic rubber blends. The block copolymer having a variety of composition and chain length were synthesized by using benzyl diethyldithiocarbamate as an iniferter. The synthesized products were analyzed by using <sup>1</sup>H-NMR and GPC techniques. Study on morphology of various blends containing 5% by weight of a block copolymer revealed that most of the copolymers were capable of reducing particle size of an acrylic rubber phase. Only the blend which contained 20% by weight of natural rubber in which the co-continuous morphology was not significantly changed upon an addition of the copolymers. In term of tensile properties, it was found that tensile stress of the blends is significantly improved by blending with block copolymers, regardless of the copolymer architecture. However, for the blends containing 20% by weight of natural rubber, it was found that only a block copolymer having the lowest molecular weight and contained mainly polyisoprene-block that was effective.