

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

**Organobentonite / Polypropylene Nanocomposite for Packaging Application** YUKHANTHORN VAROTHAI, ATINUCH PHANDEE, MANIT NITHITANAKUL, RATHANAWAN MAGARAPHAN, HATHAIKARN MANUSPIYA, The Petroleum and Petrochemical College Chulalongkorn University — Na-bentonite was treated with several kind of quaternary alkyl ammonium cation by ion exchange reaction to find the high efficiency one to exfoliate the longer of nanoclay. DOEM exhibited the good performance to continue the work. The organomodified bentonite was compounded with polypropylene by using Surlyn<sup>®</sup> ionomer as a compatibilizer to produce the packaging film. In addition the organobentonite was modified by ethylene scavenger chemical and characterized by XRD and FT-IR. It was compound with polypropylene to prepare the active packaging film. The gas permeability, ethylene adsorption-desorption, thermal and mechanical properties were investigated.

Yukhanthorn Varothai  
The Petroleum and Petrochemical College Chulalongkorn University

Date submitted: 04 Dec 2006

Electronic form version 1.4