

Title : Investigation of the Physical, Mechanical and Thermal Properties of Reprocessed Polypropylene Mixed with Talcum

Author(s) : 1. Ms. Chanaporn Kaewchuen

Student ID : 640510015

Major : Chemistry

Advisor(s) : 1. Associate Professor Dr. Thunwadee Limtharakul

2. Assistant Professor Dr. Runglawan Somsunan

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ABSTRACT

Environmental conservation is an important issue in today's world. The ways to reduce global warming problems is of great interest. The study on the reprocessing of plastics can help reduce these problems by recycling plastics without affecting their mechanical and thermal properties. This research aims to determine the appropriate number of cycles for repeating the process of PP-talc samples and to examine the effects on their mechanical properties after repeated processing. The mechanical property tests were carried out include impact tests, tensile tests, flexural tests. The melting rate by melt flow rate method, the changes in the thermal properties by differential scanning calorimetry and structural analysis using Fourier transform infrared spectroscopy were examined. The results were found that PP-talc processed with the same reprocessing method for 5 cycles exhibited no significant changes in mechanical properties. It can be concluded that PP-talc samples can be reused up to 5 cycles without affecting their properties.

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