

ABSTRACT

PREPARATION AND CHARACTERIZATION OF BIODEGRADABLE PLASTIC FROM THE MIXTURE BETWEEN POLYPROPYLENE AND CHITOSAN USING SOLID STATE METHOD

By

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The research has been carried out about of polypropylene and chitosan using solid state method. In this project plastics were made into long film sheets using different compositions with are 5%, 10% and 20% of chitosan in 40 grams total sample with and without addition of stearic acid. The result of the IR spectrum of functional group analysis with FTIR to change wavelength. It is because interaction polar-polar and interaction nonpolar-nonpolar among PP, chitosan and stearic acid. In this project, SEM was used to identify the morphology of PP/Chitosan plastics with and without addition of stearic acid. The result of analysis by using SEM showed the plastic surface without the addition of stearic acid was less homogenous but blends with the addition of stearic acid showed more homogenous. To know the thermal properties of plastics was observed using DSC and TGA analysis. DSC and TGA results showed adding stearic acid in the PP/Chitosan mixture will decrease a melting temperature (T_m) and the rate of decomposition.

Key Word : Polypropylene (PP), Chitosan, Stearic Acid