

Sol Fraction of Polypropylene/Clay modified by gamma irradiation – Microgel Evidence

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Nanoplatelet particle such clay, has the widest acceptability for use in polymers because of their high surface area [1]. The modification of polypropylene (PP) by gamma irradiation causes reactions in polymer matrix such as long chain branching [2-3]. This work concerns to nanocomposite synthesis of PP modified with clay (NCPPClay) processed in twin screw extruder and the microgel study. The gel fraction was obtained utilizing stainless-steel sieve of 500 mesh, boiling at 140 °C by 12 hours. Sol fraction was characterized by decantation in beaker. The dried sol evaluation was carried out by scanning electron microscopy (SEM) (Figure 1) and Fourier transformed spectroscopy (FT-IR) (Figure 2). Formation of polypropylene microgels was observed in presence of the clay particles.

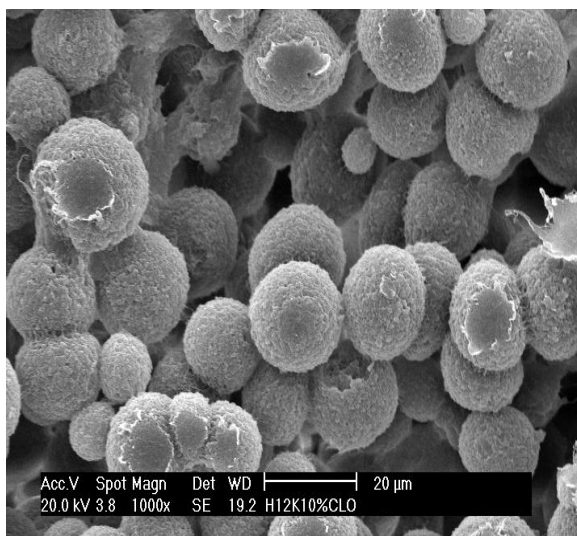


Figure 1 –NCPPClay Microgel, scale 10μm

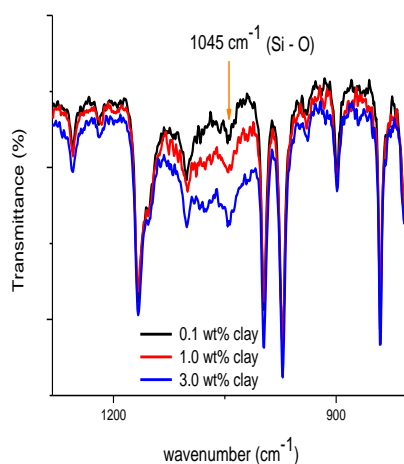


Figure2 - FT-IR of the NCPPClay

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References

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