

## **Thermal properties of linear-low density polyethylene (LLDPE) / soya spent powder blends with the addition of epoxidised natural rubber**

### **Abstract**

Soya spent powder as an inexpensive and renewable source has been used as a filler for linear-low density polyethylene (LLDPE) in this study. Linear-low density polyethylene (LLDPE) / soya spent powder composites were prepared by using Haake internal mixer. The mixing time was 10 minutes at 150°C with rotor speed 50 rpm. Epoxidised natural rubber (ENR 50) has been used as a compatibilizer in the present study. The thermal properties of the LLDPE/soya spent powder composites with and without ENR were studied with a differential scanning calorimetry (DSC). The crystallinity of the LLDPE/soya spent powder composites decreased with increasing soya spent powder content. However, the addition of ENR 50 as a compatibilizer increased the crystallinity of the LLDPE/soya spent powder composites.

### **Keywords**

Differential scanning calorimetry; Epoxidised natural rubber; Linear-low density polyethylene; Soya spent powder