

عنوان مقاله:

New strategy to increase comonomer incorporation in LLDPE synthesis using Ziegler-Natta catalysts

محل انتشار:

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خلاصه مقاله:

Effect of FeCl₃ and FeCl₃/SiCl₄-doping on the performance of MgCl₂ (ethoxide type)/TiCl₄/TEAL catalytic system was evaluated in the linear low density polyethylene (LLDPE) synthesis using 1-hexene as the comonomer. Results revealed that FeCl₃/SiCl₄ modified catalytic system has better performance in terms of catalyst activity and comonomer incorporation when compared with unmodified catalyst or the catalytic system in the presence of FeCl₃ alone. In fact, the introduction of FeCl₃ doper, in its optimum amount of 10 wt. %, together with SiCl₄ induced better catalytic performance with 212 and 90 % increase in catalyst activity and 1-hexene incorporation, respectively. Copolymers characterization showed increased bulk density together with decreased crystallinity and T_m in the polymers from modified catalysts. Overall results showed that, new catalytic system represented in this work, is a good candidate for large scale LLDPE production with high comonomer amount

کلمات کلیدی:

LLDPE; modified support; FeCl₃; Ziegler-Natta catalyst

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