Layered Double Hydroxides as Supports for Norbornene Addition Polymerisation Catalysts

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Addition polymerisation of norbornene with transition metal catalysts activated by methylaluminoxane was first realised on heterogeneous catalytic systems. Advanced inorganic functional polymers possessing anion-exchange properties – layered double hydroxides of Al and Zn of hydrotalcite-type – were applied as supports. They possess high polarity and are selective towards polar molecules like organometallic compounds. The activity of immobilised nickel catalysts was found to be higher than that of the homogeneous one. A certain catalytic activity was also found for group 4 phthalo cyanines. The polynorbornenes obtained were characterised by gel permeation chromatography and SEM microimaging. The support’s morphology influences the shape, density, and dimensions of the resulting polymer particles.

\textit{Key words:} Hydrotalcite, Polynorbornene, Heterogeneous Catalysis