Inorganic/organometallic catalysts and initiators involving weakly coordinating anions for isobutene polymerisation

Abstract:
Polyisobutenes have numerous industrial applications, e.g. as rubbers, sealants, lubricants and oil additives. For the latter two applications, being the largest end-use markets, polyisobutenes are produced on a several 105 t scale per year. Polyisobutenes applied in mineral oil applications are of low molecular weight. They are industrially produced at temperatures below 0 degrees C, usually with very active but simple inorganic Lewis acid initiators. During the last decade, research groups developed and examined new types of mostly inorganic/organometallic initiators that work closer to ambient temperatures and provide polymer products of high quality, being at least on a par with the current large scale produced industrial products. An overview on the state of the art and new developments is given in this article. (C) 2011 Published by Elsevier B.V.