

Preparation of low molecular weight, highly reactive
polyisobutylene

5 Abstract

A process for preparing low molecular weight, highly reactive polyisobutylene having an average molecular weight M_n of from 500 to 5000 Dalton and a terminal double bond content of more than
10 80 mol% by polymerization in the liquid phase of isobutene or hydrocarbon streams comprising isobutane [sic] with the aid of a boron trifluoride complex catalyst at from -40 to 20°C and at from 1 to 20 bar comprises

15 a) polymerizing until the residual isobutene content of the reaction mixture is less than 2% by weight, based on isobutene introduced, or removing residual isobutene towards the end of the polymerization until the residual isobutene content is less than 2% by weight,

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b) enriching the boron trifluoride complex catalyst which is obtained in the form of droplets in the disperse and/or coherent phase,

25 c) recycling the complex-enriched phases to the polymerization and

d) compensating for catalyst losses by adding boron trifluoride and, if necessary, complexing agents.

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