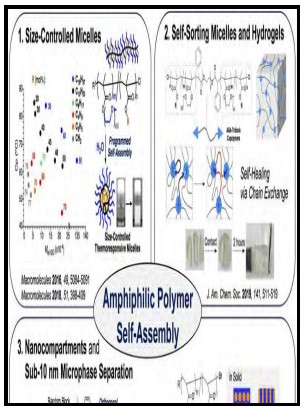
Digital simulation of living system polymerisation of styrene monomer in batch and semi-batch reactors.

The author - Free



Description: -
-Digital simulation of living system polymerisation of styrene monomer in batch and semi-batch reactors.
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DissertationsDigital simulation of living system polymerisation of styrene monomer in batch and semi-batch reactors.
Notes: M.Sc. dissertation.
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Tags: #Free

Polymerization Reactor

Mechanisms and Kinetics of Nitroxide-Controlled Free Radical Polymerization. The resulting set of differential equations was solved for the temperature profile and monomer consumption as a function of time. Polymer Korea 2014, 38 2 , 199-204.

Polymerization Reactor

Mechanism and Kinetics of RAFT-Based Living Radical Polymerizations of Styrene and Methyl Methacrylate.

Use of CFD in modeling MMA solution polymerization in a CSTR

Zetterlund,, Shinji Tagashira,, Kyoko Izumi,, Yutaka Nagano,, Makoto Azukizawa,, Hirotomo Yamazoe,, Masatsugu Kumagai, and, Bunichiro Yamada.

The Control of Molecular Weight Distribution in Linear Homopolymers Through a Semibatch 'Living' Anionic Polymerization

The dispersion method consumes much more surfactant than the suspension slurry process and produces small submicron particles Fig.

Interactive Software Packages for Polymerisation Reactor Control

These researchers reported that periodic pulsing prevented plugging, but they did not discover a critical frequency or amplitude for avoiding plugging. Some correlations were included, which are capable to predict melt index and density of the produced polymer from its mass average molecular weight and simulated results were confronted with actual industrial plant data. Preparation of Acrylic Pressure Sensitive Adhesives for Optical Applications and Their Adhesion Performance.

The Control of Molecular Weight Distribution in Linear Homopolymers Through a Semibatch 'Living' Anionic Polymerization

Finally, the advantage of having a rigorous control system in order to have the desired properties in the final product was analysed. Additional surfactants may be added to prevent coagulation of small particles.

Polymerization Reactor

Emphasis was put on the reaction temperature, which is controlled by the jacket temperature. However, all synthetic polymers are polydisperse in that they contain polymer chains of unequal length, and so the molecular weight is not a single value but a distribution of chain lengths and molecular weights. The CFD model was then employed to investigate the impacts of the impeller speed, reaction temperature, residence time and inlet monomer or solvent concentration on the conversion and homogeneity of reaction mixture inside the reactor.

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