

عنوان مقاله:

Emulsion polymerization of vinyl chloride in batch reactor: Effect of operating variables on the polymerization yield using Taguchi experimental design

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

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خلاصه مقاله:

The effects of operating variables on the reaction yield have been studied for batch emulsion polymerization of vinyl chloride. Taguchi experimental design was used to study the influences of reaction temperature, water to monomer weight ratio, concentrations of initiator and emulsifier, as well as agitation speed. The results show that the yield increases with temperature, agitation speed and emulsifier concentration. For initiator concentration there is an optimum point, and the yield decreases as R is increased. Statistical analysis reveals that agitation speed, emulsifier concentration, and water to monomer weight ratio are of the most significance, respectively. Temperature and initiator concentration have minor effects on the yield, in the range of levels considered in this study.

کلمات کلیدی:

emulsion polymerization, Poly (vinyl chloride), Batch reactor, yield, Taguchi experimental design

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