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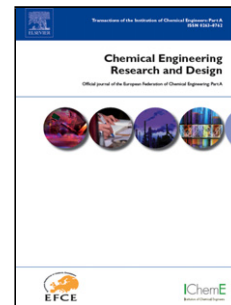
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Author: Piotr T. Mitkowski Waldemar Szaferski

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Production of emulsion in tank mixer with sieve bottom

Piotr T. Mitkowski¹, Waldemar Szaferski²

¹ Poznan University of Technology, Faculty of Chemical Technology, Department of Chemical Engineering and Equipment, Poland, piotr.mitkowski@put.poznan.pl

² Poznan University of Technology, Faculty of Chemical Technology, Department of Chemical Engineering and Equipment, Poland, waldemar.szaferski@put.poznan.pl

Abstract

This paper presents a unique equipment design which can be used in creating liquid-liquid dispersions, named the sieve emulsification mixer (SEM). SEM consists of a tank equipped with sieve at the bottom, impeller and circulating pump. In built experimental set-up the set of experiments has been performed, which assessed influence of four process parameters: feed flow rate, recirculation flow rate, rotational speed of impeller and processing time. The obtained results prove that with use of SEM it is possible to produce emulsions with droplets of the Sauter mean diameter close to the mesh size (i.e. 20 μm), therefore this technology could be a good alternative to membrane-based emulsification processes.

Keywords

Emulsification process, sieve emulsification mixer, liquid-liquid dispersion, metal membrane, hybrid process

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