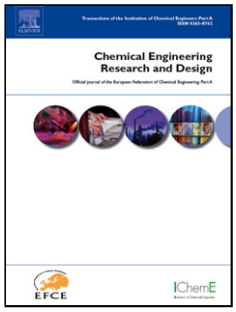
Accepted Manuscript



Title: A continuous multi-stage mixed-suspension mixed-product-removal crystallization system with fines dissolution

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PII: S0263-8762(18)30268-5
DOI: https://doi.org/10.1016/j.cherd.2018.05.029
Reference: CHERD 3193

To appear in:

Received date: 13-2-2018
Revised date: 1-5-2018
Accepted date: 21-5-2018

Please cite this article as: Acevedo, David, Jarmer, Daniel J., Burcham, Christopher L., Polster, Christopher S., Nagy, Zoltan K., A continuous multi-stage mixed-suspension mixed-product-removal crystallization system with fines dissolution.Chemical Engineering Research and Design https://doi.org/10.1016/j.cherd.2018.05.029

A Continuous Multi-Stage Mixed-Suspension Mixed-Product-Removal Crystallization System with Fines Dissolution

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Highlights:

- Larger crystals and a narrower distribution were obtained due to the removal of fine crystals through the continuous process
- Small decrease in the achievable yield was observed when dissolution stage is included
- Design of multi-stage crystallization system with dissolution stage can improve crystal properties

Abstract

This work demonstrates how crystal particle size is affected by the addition of fines dissolution in a mixed suspension mixed product removal (MSMPR) cascade system. The cooling crystallization of paracetamol in water was used as a case study. Two MSMPR cascade configurations were evaluated: (i) nucleation-growth (NG), and (ii) nucleation-dissolution-growth (NDG). Simulation