

Accepted Manuscript

Title: Entrainer based economical design and plantwide control study for Tetrahydrofuran/Water separation process

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PII: S0263-8762(17)30704-9
DOI: <https://doi.org/10.1016/j.cherd.2017.12.031>
Reference: CHERD 2956

To appear in:

Received date: 19-8-2017
Revised date: 14-11-2017
Accepted date: 13-12-2017

Please cite this article as: Iqbal, Asma, Ahmad, Syed Akhlaq, Ojasvi, , Entrainer based economical design and plantwide control study for Tetrahydrofuran/Water separation process. *Chemical Engineering Research and Design* <https://doi.org/10.1016/j.cherd.2017.12.031>

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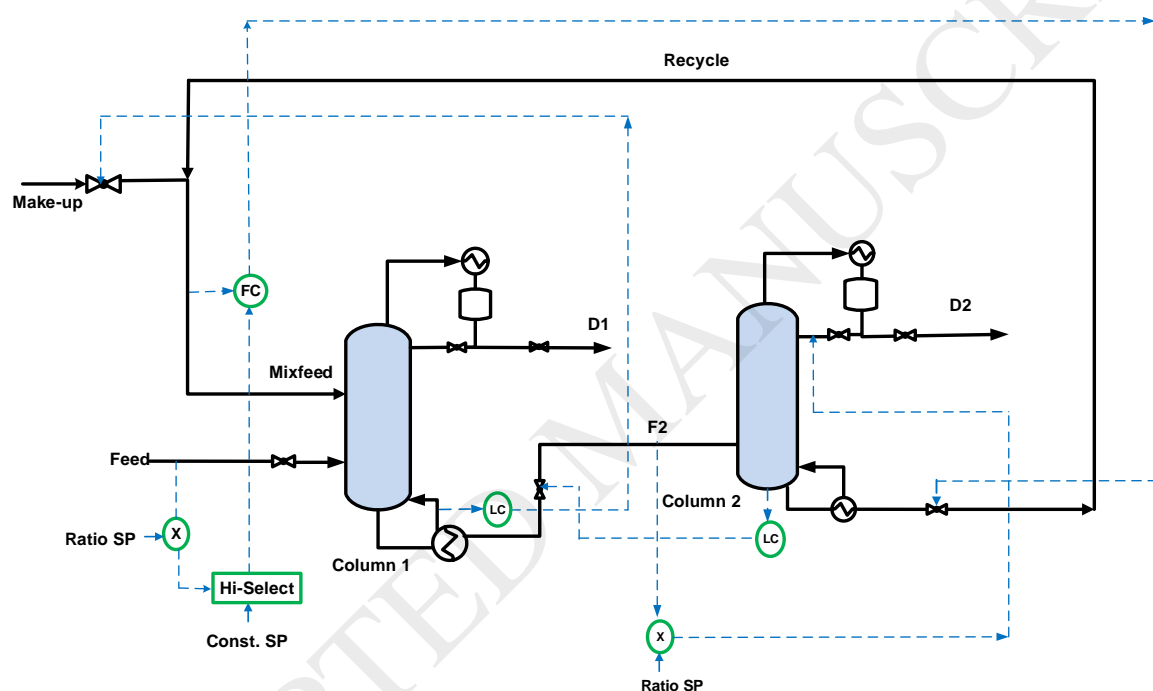
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Graphical Abstract



Highlights

- Effect of entrainer cost on overall economics of the processing plant.
- Selection criteria of entrainer in extractive distillation process.
- The crucial role of basic regulatory control structure in safe and stable operations.
- Effect of plant disturbances in feed rate change and composition change.

Abstract

In this work, the control structure design for a continuous extractive distillation scheme using entrainers for separating THF-water azeotropic mixture into high purity product (THF) has been studied. The selection of suitable entrainer for the undertaken process was purely based on economical design criteria where Total annualised cost, TAC, for different entrainers were

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