

Martino Di Serio
Poznan University of Technology
Faculty of Chemical Technology

Abstract of the dissertation

" Catalysis, Kinetics, and Chemical Reactor Engineering for Alkoxylation Reactions"

Doctoral dissertation promoter: Wieslaw Hreczuch

In this dissertation the main aspects related to the alkoxylation reactions for the synthesis of nonionic surfactants are reported.

The work is divided into two parts.

Part I is an introduction to the subject of the work and an analysis of the state of knowledge in the field of oxyalkylation, also covering the author's previous works, (general survey on the catalysts, reaction mechanisms, kinetics of the alkoxylation reaction of fatty alcohols catalyzed by metal alkaline hydroxides, the mathematical models developed for the simulation of classical industrial reactors, the safety in alkoxykation reactions).

Part II describes most of the work of the candidate in the sector of intensification of the process with the improvement of the classical reactors and in the evaluation of the possibility to change the process from semi-batch to continuous. In particular, the possibility of using micro or milli reactor in process intensification for ethoxylation reaction was presented.



MARTINO
DI SERIO
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GMT+02:00