

Accepted Manuscript

Title: Formation of Alkoxy Groups in the Synthesis of Butylated Urea Formaldehyde Resins: Reaction Mechanism and Kinetic Model

Authors: Shital Amin, Nitin Padhiyar, Pratyush Dayal

PII: S0263-8762(18)30232-6
DOI: <https://doi.org/10.1016/j.cherd.2018.05.002>
Reference: CHERD 3165

To appear in:

Received date: 11-11-2017
Revised date: 27-4-2018
Accepted date: 1-5-2018

Please cite this article as: Amin, Shital, Padhiyar, Nitin, Dayal, Pratyush, Formation of Alkoxy Groups in the Synthesis of Butylated Urea Formaldehyde Resins: Reaction Mechanism and Kinetic Model. *Chemical Engineering Research and Design* <https://doi.org/10.1016/j.cherd.2018.05.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



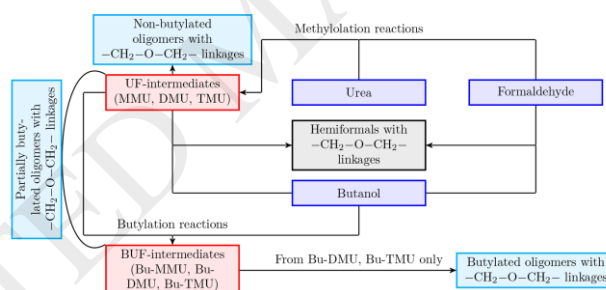
Formation of Alkoxy Groups in the Synthesis of Butylated Urea Formaldehyde Resins: Reaction Mechanism and Kinetic Model

Shital Amin, Nitin Padhiyar, Pratyush Dayal*

Department of Chemical Engineering, Indian Institute of Technology Gandhinagar,
Gandhinagar, 382355, India.

*Corresponding author: pdayal@iitgn.ac.in

GRAPHICAL ABSTRACTS



Highlights:

- Detailed reaction mechanism & kinetics for butylated urea formaldehyde (BUF) resins
- Only addition step of BUF synthesis is considered.
- Key species represented in generic fashion—extension to condensation step possible
- New intermediates identified—functionalization via nanomaterials possible
- Mechanisms, kinetics and new species verified via experimental investigations

ABSTRACT:

Water-resistant amino resins have found diverse applications in the paint and coatings industry. Butylated Urea Formaldehyde (BUF) amino resins exhibit excellent water-resistant properties due to the

Download English Version:

<https://daneshyari.com/en/article/7005729>

Download Persian Version:

<https://daneshyari.com/article/7005729>

[Daneshyari.com](https://daneshyari.com)