

## Accepted Manuscript

Title: Kinetics of Extraction of Nitric Acid into Binary Mixture of Tri-*n*-butyl Phosphate and Normal Paraffin Hydrocarbon

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PII: S0263-8762(16)30100-9  
DOI: <http://dx.doi.org/doi:10.1016/j.cherd.2016.05.017>  
Reference: CHERD 2284

To appear in:

Received date: 19-10-2015  
Revised date: 29-4-2016  
Accepted date: 18-5-2016

Please cite this article as: Pandey, N.K., Augustine, E., Murali, R., Desigan, N., Mudali, U.K., Joshi, J.B., Kinetics of Extraction of Nitric Acid into Binary Mixture of Tri-*n*-butyl Phosphate and Normal Paraffin Hydrocarbon, *Chemical Engineering Research and Design* (2016), <http://dx.doi.org/10.1016/j.cherd.2016.05.017>

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**Highlights**

- A comprehensive model is developed to describe the extraction kinetics of  $\text{HNO}_3$  in TBP
- Rate constant and mass transfer coefficient calculated experimentally
- Mass transfer coefficient correlation has also been derived
- Extraction of nitric acid into TBP-dodecane mixture is an interfacial reaction
- Overall extraction kinetics is both kinetic and diffusion controlled

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