

## Accepted Manuscript

Review

Ultrasound-assisted oxidative desulfurization and denitrogenation of liquid hydrocarbon fuels: a critical review

Mahsa Ja'fari, Seyedeh Leila Ebrahimi, Mohammad Reza Khosravi-Nikou

PII: S1350-4177(17)30400-5

DOI: <http://dx.doi.org/10.1016/j.ultsonch.2017.09.002>

Reference: ULTSON 3850

To appear in: *Ultrasonics Sonochemistry*

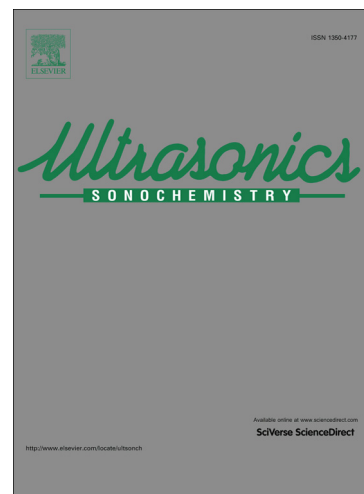
Received Date: 13 May 2017

Revised Date: 4 September 2017

Accepted Date: 4 September 2017

Please cite this article as: M. Ja'fari, S.L. Ebrahimi, M.R. Khosravi-Nikou, Ultrasound-assisted oxidative desulfurization and denitrogenation of liquid hydrocarbon fuels: a critical review, *Ultrasonics Sonochemistry* (2017), doi: <http://dx.doi.org/10.1016/j.ultsonch.2017.09.002>

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.



## Ultrasound-assisted oxidative desulfurization and denitrogenation of liquid hydrocarbon fuels: a critical review

Mahsa Ja'fari<sup>1</sup>

Seyedeh Leila Ebrahimi<sup>2</sup>

Mohammad Reza Khosravi-Nikou<sup>1,2\*</sup>

<sup>1</sup>Chemical Engineering Department, Abadan Faculty of Petroleum, Petroleum University of Technology

<sup>2</sup>Gas Engineering Department, Ahvaz Faculty of Petroleum, Petroleum University of Technology

\* Corresponding author: Dr. Mohammad Reza Khosravi-Nikou

Tel.: 00986135550868

Fax: 00986135550868

Email address: mr.khosravi@put.ac.ir

### Abstract

Nowadays, a continuously worldwide concern for development of process to produce ultra-low sulfur and nitrogen fuels have been emerged. Typical hydrodesulfurization and hydrodenitrogenation technology deals with important difficulties such as high pressure and temperature operating condition, failure to treat some recalcitrant compounds and limitations to meet the stringent environmental regulations. In contrary an advanced oxidation process that is ultrasound assisted oxidative desulfurization and denitrogenation satisfies latest environmental regulations in much milder conditions with more efficiency. The present work deals with a comprehensive review on findings and development in the ultrasound assisted oxidative desulfurization and denitrogenation (UAOD) during the last decades. The role of individual parameters namely temperature, residence time, ultrasound power and frequency, pH, initial concentration and types of sulfur and nitrogen compounds on the efficiency are described. What's more another treatment properties that is role of phase transfer agent (PTA) and solvents

Download English Version:

<https://daneshyari.com/en/article/5144420>

Download Persian Version:

<https://daneshyari.com/article/5144420>

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