

Accepted Manuscript

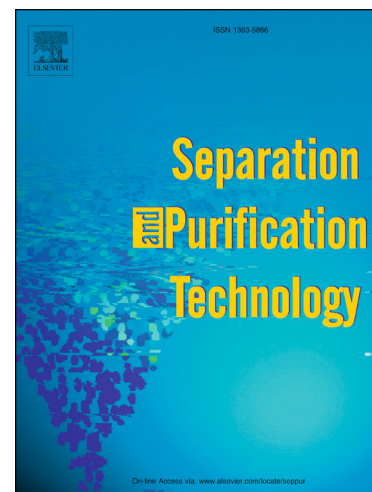
Effect of MBR-H₂O₂/UV HYbrid pre-treatment on Nanofiltration performance for THE treatment of petroleum refinery wastewater

Priscila B. Moser, Bárbara C. Ricci, Beatriz G. Reis, Luzia S.F. Neta, Ana Cláudia Cerqueira, Míriam C.S. Amaral

PII: S1383-5866(17)31474-0
DOI: <https://doi.org/10.1016/j.seppur.2017.09.070>
Reference: SEPPUR 14079

To appear in: *Separation and Purification Technology*

Received Date: 8 May 2017
Revised Date: 29 September 2017
Accepted Date: 29 September 2017



Please cite this article as: P.B. Moser, B.C. Ricci, B.G. Reis, L.S.F. Neta, A. Cláudia Cerqueira, M.C.S. Amaral, Effect of MBR-H₂O₂/UV HYbrid pre-treatment on Nanofiltration performance for THE treatment of petroleum refinery wastewater, *Separation and Purification Technology* (2017), doi: <https://doi.org/10.1016/j.seppur.2017.09.070>

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.

EFFECT OF MBR-H₂O₂/UV HYBRID PRE-TREATMENT ON NANOFILTRATION PERFORMANCE FOR THE TREATMENT OF PETROLEUM REFINERY WASTEWATER

Priscila B. Moser^a; Bárbara C. Ricci^a; Beatriz G. Reis^a; Luzia S. F. Neta^b; Ana Cláudia Cerqueira^c;

Míriam C.S. Amaral^{a*}

^aDepartment of Sanitary and Environmental Engineering - Federal University of Minas Gerais. P.O. Box 1294, ZIP 30.270-901, Belo Horizonte, MG, Brazil.

^bResearch and development Center of PETROBRAS S.A/CENPES. P.O. Box 68505, ZIP 21941-915 Rio de Janeiro, RJ, Brazil.

^cChemistry Department - Federal Center of Technological Education of Minas Gerais. ZIP 30.421-169, Belo Horizonte, MG, Brazil.

* Corresponding author: miriam@desa.ufmg.br; Phone: +55 31 3409-3669; Fax: +55 31 3409-1879.

ABSTRACT

This study aimed to investigate the performance of direct (UV) and hydrogen peroxide-assisted (UV/H₂O₂) photolysis applied to MBR permeate as a pre-treatment for nanofiltration systems treating petroleum refinery wastewater. The MBR permeate was subjected to UV and UV/H₂O₂ (C:H₂O₂ 1:1, 1:2 and 1:3) in order to reduce the membrane fouling potential of nanofiltration in the polishment stage. The process that promoted the lower fouling potential was chosen as pre-treatment for nanofiltration process. The results showed that MBR permeate COD removal efficiency of 80% is enough for

Download English Version:

<https://daneshyari.com/en/article/4989452>

Download Persian Version:

<https://daneshyari.com/article/4989452>

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