

Accepted Manuscript

Title: Experimental investigation and modeling of viscosity effect on carbon dioxide absorption using sodium hydroxide

Authors: Behnam Tirandazi, Ali Yahyae, Mohsen Kianpour, Shahrokh Shahhosseini



PII: S2213-3437(17)30205-1
DOI: <http://dx.doi.org/doi:10.1016/j.jece.2017.05.015>
Reference: JECE 1618

To appear in:

Received date: 30-3-2017
Revised date: 29-4-2017
Accepted date: 11-5-2017

Please cite this article as: Behnam Tirandazi, Ali Yahyae, Mohsen Kianpour, Shahrokh Shahhosseini, Experimental investigation and modeling of viscosity effect on carbon dioxide absorption using sodium hydroxide, Journal of Environmental Chemical Engineering <http://dx.doi.org/10.1016/j.jece.2017.05.015>

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Experimental investigation and modeling of viscosity effect on carbon dioxide absorption using sodium hydroxide

Behnam Tirandazi^a, Ali Yahyaei^{b*}, Mohsen Kianpour^c, Shahrokh Shahhosseini^d

^a Department of mechanical and industrial engineering, Northeastern University, Boston, MA, USA,
Tirandazi.b@husky.neu.edu

^b School of Mechanical Engineering, Iran University of Science and Technology (IUST), Tehran, Iran
Alidyahyaei@gmail.com

^c Iranian catalyst development (ICD), Tehran, Iran
Kianpour.m@icdco.ir

^d School of Chemical Engineering, Iran University of Science and Technology (IUST), Tehran, Iran
shahrokh@iust.ac.ir

*Corresponding author: alidyahyaei@gmail.com (Ali Yahyaei)

Postal address: Eastern Hamoon, Resalat square, Tehran, Iran

Postal code: 1681648643

Highlights

- Xanthan is used to study solution viscosity effects on CO₂ conversion rate.
- CO₂ capture rate was mostly affected by sorbent concentration.
- Effectiveness contribution of Xanthan loading on solution viscosity was 75%.
- Effectiveness contribution of Xanthan loading on solution surface tension was 65%.
- Maximum CO₂ conversion rate occurred at 30°C and solution film thickness of 0.8mm.

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