

Accepted Manuscript

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PII: S1385-8947(18)30283-3
DOI: <https://doi.org/10.1016/j.cej.2018.02.072>
Reference: CEJ 18551

To appear in: *Chemical Engineering Journal*

Received Date: 10 December 2017
Revised Date: 9 February 2018
Accepted Date: 15 February 2018

Please cite this article as: G. Deng, K. Li, Z. Gu, X. Zhu, Y. Wei, X. Cheng, H. Wang, Synergy Effects of Combined Red Muds as Oxygen Carriers for Chemical Looping Combustion of Methane, *Chemical Engineering Journal* (2018), doi: <https://doi.org/10.1016/j.cej.2018.02.072>

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Synergy Effects of Combined Red Muds as Oxygen Carriers for Chemical Looping Combustion of Methane

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Abstract

Iron-containing natural ores or solid wastes (e.g., red mud) are considered as ideal candidate as oxygen carrier for large-scale chemical looping combustion technology due to their high content of Fe_2O_3 and low cost. However, these oxygen carriers usually show low activity for fuel conversion because of the special structure and components. In the present study, two types of red mud (V-RM with rich Fe_2O_3 and W-RM with rich inert and alkaline components) were combined to modify the structure and the distribution of different components in the red mud oxygen carrier

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