

Accepted Manuscript

Experimental study on mixing behaviors of wet particles in a bubbling fluidized bed

Huibin Xu, Wenqi Zhong, Yingjuan Shao, Aibing Yu



PII: S0032-5910(18)30721-6
DOI: [doi:10.1016/j.powtec.2018.08.083](https://doi.org/10.1016/j.powtec.2018.08.083)
Reference: PTEC 13668
To appear in: *Powder Technology*
Received date: 5 May 2018
Revised date: 24 August 2018
Accepted date: 30 August 2018

Please cite this article as: Huibin Xu, Wenqi Zhong, Yingjuan Shao, Aibing Yu , Experimental study on mixing behaviors of wet particles in a bubbling fluidized bed. Ptec (2018), doi:[10.1016/j.powtec.2018.08.083](https://doi.org/10.1016/j.powtec.2018.08.083)

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.

Experimental study on mixing behaviors of wet particles in a bubbling fluidized bed

Huibin Xu^{1,2}, Wenqi Zhong^{2,*} wqzhong@seu.edu.cn, Yingjuan Shao²,
Aibing Yu³

¹School of Energy and Power Engineering, Jiangsu University, Zhenjiang, 212013, China

²Key Laboratory of Energy Thermal Conversion and Control of Ministry of Education, School of Energy and Environment, Southeast University, Nanjing, 210096, China

³ARC Research Hub for Computational Particle Technology, Department of Chemical Engineering, Monash University, Clayton, VIC 3800, Australia

*Corresponding author.

Abstract

Mixing behavior of binary particles with different densities in a wet fluidized bed has been experimentally investigated in this work. Some important hydrodynamic characteristics during mixing, such as the minimum fluidization velocity, flow pattern, and flotsam particle distribution are measured. The differences between dry and wet particles are systematically compared. It is found that the minimum fluidization velocity U_{mf} of wet particles is higher than that of dry particles due to the liquid bridge force between particles. U_{mf} reaches its maximum when the liquid saturation $S=0.1$, and then decreases, and does not change much when the liquid saturation in the region of $S=0.2\sim 0.3$. Liquid addition can bring two opposite effects on the mixing of a binary

Download English Version:

<https://daneshyari.com/en/article/10150609>

Download Persian Version:

<https://daneshyari.com/article/10150609>

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