

Effect of solids inventory on transport velocity in a gas fluidized bed

Muhammad Shahzad Khurram, 최정후^{1,*}, 박성열¹,
이성수¹, 설덕수¹, 안태하¹, 방준석¹, 강병훈¹, 김명진¹,
어주영¹, 신동현¹, 권재혁¹, 김진회¹, 이희수¹
건국대학교; ¹건국대학교 화학공학과
(choijhoo@konkuk.ac.kr*)

A hydrodynamic study of Geldart's A, and B particles were conducted in a 0.05 m I.D and 1 m in height plexi glass fluidized system. The transport velocity of 5 different particles of range from 70 to 167 μm with density (2416 to 2591 kg/m^3) was determined by emptying time method. Besides, particle size and density, influence of static bed weight (100 to 1000 gm) on transport velocity was also investigated thoroughly. An minor increase in U_{tr} observed with increase in bed weight. The data was compared with existing correlation for U_{tr} and a new amended equation was proposed for the prediction of U_{tr} .