

Critical Suspension Condition of Particles in a Shaking Vessel of Solid-Liquid System

이영세*, 김효영¹, 김다정¹

경북대학교; ¹경북대학교 나노소재공학부

(ysl@knu.ac.kr*)

Shake mixing has been widely used in cell culture. The mixing performance for shake mixing, however, has not been reported quantitatively. The critical circulating frequency and the power consumption for complete suspension of particles, based on the definition of Zwietering, were measured in a shaking vessel containing a solid-liquid system. The critical suspension frequency was correlated by the equation from Baldi's particle suspension model modified with the physical properties of the particles.

The power consumption at the critical suspension condition in the shaking vessel was less than that in an agitated vessel with impeller.