عنوان مقاله:

Modeling of bubble breakage in bubble column reactors

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

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خلاصه مقاله:

Two mechanisms, i.e., coalescence and breakage, control the behavior of bubbles in the bubble column bioreactors. In the present work, breakage was investigated. Breakage rate is a function of collision frequency and probability of collisions between bubbles and eddies. In addition to breakage rate, distribution of daughter bubble size is of significant importance. Impact of several parameters such as, energy dissipation rate, bubble size, and physical properties of liquid on specific breakage rate and distribution of daughter bubble size were investigated in the present work by a mathematical model. Set of equations derived from this model were solved with MATLAB. A good agreement was observed between the predicted results of the present model and the experimental data in the literature.

کلمات کلیدی:

Bubble column, Breakage, Modeling, Daughter bubble, Bubble size distribution

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