عنوان مقاله:

A Theoretical Model for Calculating the Effective Diffusivity of Gases in A Porous Pellet Composed of Two Different Grains

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خلاصه مقاله:

Effective diffusivity of gases is an important parameter for modeling the physico-chemical processes occurring within a pellet. Calculating effective diffusivity in a pellet composed of a mixture of particles is a difficult task. In this paper, a theoretical model is presented in order to describe the diffusion phenomenon of gases in a porous pellet made up of a mixture of two kinds of solid grains. Solid grains can either be fully dense and thus non porous or contain pores with a grain being sub-divided into sub-grains. The results predicted by the model have been evaluated and validated using experimental data relating to reduction of cuprous sulfide in the presence of lime. Finally, the effects of the structural .and operational parameters have been evaluated on the effective diffusivity of the gases in the pellet

کلمات کلیدی:

Effective Diffusivity, Theoretical Model, Gas-Solid Diffusion, Two Different Grains, Porous Pellet

لینک ثابت مقاله در پایگاه سیویلیکا: