عنوان مقاله:

The effect of NiO/CoO ratio on the effective diffusion coefficient of methane gas in the pellet (NiO)x- (CoO)(1-x) nanoparticles

محل انتشار:

شانزدهمین کنگره ملی مهندسی شیمی ایران (سال: 1397)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

The effective diffusion coefficient (De) of CH4 into the pellets (NiO)x-(Co3O4)(1-x) (x=0, 0.2, 0.4, 0.6, 0.8, 1) binary mixtures nanoparticles(NPs) were investigated using a thermogravimetric method. In this method, the reduction reaction was carried out of NiO and Co3O4, and CH4 as metal precursors, and a reducing agent, respectively. The reduction reaction of (NiO)x-(Co3O4)(1-x) (x = 0, 0.2, 0.4, 0.6, 0.8, 1) binary mixtures NPs via 23 vol.% of CH4 was experimentally investigated at constant reduction temperature (830 ºC) and under atmospheric pressure. A mixture of CH4 and Ar with a flowrate of 296 cm3/min in the reduction reaction was used. In addition, the effective diffusion coefficient (De) of CH4 into the pellets were studied on (NiO)0.4-(CoO)0.6 samples with non-sintered and sintered modes.

کلمات کلیدی:

.The effective diffusion coefficient(De), Methane, Reduction, Thermogravimetri method

لینک ثابت مقاله در پایگاه سیویلیکا: