عنوان مقاله:

Effects of aging time and temperature on the precursors of Cu/ZnO/Al2O3 catalyst for methanol synthesis

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

Catalyst precursors for copper/zinc/aluminum mixed oxide catalysts with an atomic ratio of 65/25/10 were prepared by coprecipitation method at different temperatures levels and aging time. The precursors and catalysts were characterized by X-ray diffraction, BET and copper surface area measurements. The catalysts were also tested in a fixed-bed reactor for methanol synthesis activity. It was found during aging of precursors in the mother liquor original amorphous precipitates transform into a mixture of crystalline rosasite and aurichalcite after a certain time of aging. The CuO/ZnO/Al2O3 catalysts obtained from longtime-aged precipitates exhibited a higher activity, smaller copper crystallite size and a larger copper surface area. It was also found that an increase in the precipitation temperature results in improved catalyst activity.

کلمات کلیدی:

Methanol synthesis catalyst; Copper; Zinc oxide; Precursor; Aging time