

عنوان مقاله:

Investigation of the catalytic activity effect of Co(acac)₃ nanoparticle on thermal decomposition of ammonium perchlorate and its Kinetic parameters

محل انتشار:

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خلاصه مقاله:

To overcome the agglomeration of cobalte oxide (Co₃O₄) nanocatalysts mechanically mixed with ammonium perchlorate (AP) and other additives of rocket propellant, Co₃O₄/AP have been synthesized successfully with thermal decomposition process using cobalte acetylacetonate (Co(acac)₃). The cobalte acetylacetonate was coated on AP by Non-solvent, solvent method at room temperature to make a uniform and steady shell. The scanning electron microscopy image (SEM) of nano-composite revealed that nano-coating of Co(acac)₃ had made thin and steady covers on the surface of AP. The catalytic effect of cobalt oxide nano-particles on ammonium perchlorate thermal decomposition was studied by differential scanning calorimetric (DSC) Showed a decrease in the decomposition .temperature from 398.04 °C to 328 °C and the kinetic parameters were determined

کلمات کلیدی:

Cobalte Acetylacetonate; Co₃O₄ Nano-Catalysts; Ammonium Perchlorate; Thermal Decomposition; Catalytic Activity

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