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Preparation of Nano-CuO and Its Effect on Pressure Index of Double-base Propellant

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Abstract: Nano-CuO was prepared by the precipitation method using NH_4HCO_3 as the precipitator. The as-prepared nano-CuO were characterized by XRD, TEM, and SEM. The effect of nano-CuO on burning performance of double-base propellant was tested by constant-volume burning experiment. The results show that nano-CuO is composed of well-dispersed spherical particles with an average size of 10 – 15 nm; the burning performance of double-base propellant has obvious change after adding nano-CuO; pressure index of the propellant is reduced from 0.9329 to 0.8539; compared with general CuO reagent, nano-CuO can obviously reduce the pressure-index of the propellant.

Key words: materials science; nano-CuO; propellant; pressure index

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欢 迎
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