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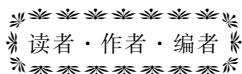
Preparation and Characterization of Ultra-fine A₅ Booster

LIANG Yi-qun, ZHANG Jing-lin, JIANG Xia-bing, WANG Bao-guo

(Chemical Industry and Ecology School of North University of China, Taiyuan 030051, China)

Abstract: In order to overcome the defects of conventional A₅ booster, such as low energy density, high sensitivity and difficulty in meeting the safety of weapons and ammunitions requiring high energy density and low sensitivity in modern war, ultra-fine A₅ booster was developed by coating ultra-fine RDX with stearic acid. The mould powder of ultra-fine A₅ booster was acquired by aqueous suspension technology. The FT-IR spectra and stereo scan photograph of ultra-fine A₅ booster show: stearic acid is covered on the surface of ultra-fine RDX. The experiment of impact sensitivity indicates: its critical height (H_{50}) is 3.97 cm, which is higher than that of conventional A₅ using 2.5 kg drop hammer; while the experiment of shock wave sensitivity also shows: its critical gap thickness (X_R) is 3.43 mm, thinner than that of conventional A₅, the experiment of energy output shows: its steel engraving is 0.241 mm deeper than that of conventional A₅.

Key words: applied chemistry; ultra-fine RDX; coating; aqueous suspension; impact sensitivity; shock wave sensitivity



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