CHEN Hou-he, MENG Qing-gang, CAO Hu, et al. Preparation and impact sensitivity of nanometer explosive powder of RDX [J]. *Explosion and Shock Waves*, 2004, 24(4): 382 – 383.

[7] 陈厚和,马慧华,裴艳敏,等. 纳米黑索今的制备及其机械感度[J]. 弹道学报,2003,15(3): 11 – 12.
CHEN Hou-he, MA Hui-hua, PEI Yan-min, et al. The preparing technology and mechanical sensitivity of nanometer RDX[J]. *Journal of Ballistic*, 2003, 15(3): 11 – 12.

[8] 黄明,李洪珍,徐容,等. 降感黑索今研究[J]. 含能材料,2006,14(6): 340.
HUANG Ming, LI Hong-zhen, XU Rong, et al. A study on desensitized RDX[J]. *Chinese Journal of Energetic Materials (Hanneng Cailiao)*, 2006, 14(6): 340.

[9] 燕吉胜. 主体炸药 RDX 对 CH-6 炸药药柱特性的影响[J]. 火炸药学报,2004,27(3): 53 – 54.
YAN Ji-sheng. Effect of base explosive RDX on pelleting characteristics of CH-6 compound [J]. *Chinese Journal of Propellants & Explosives*, 2004, 27(3): 53 – 54.

[10] A_5 传爆药设计定型资料[M]. 太原: 太原机械学院,1986.

[11] 鲍姆 ф A,斯达纽科维奇 κ п,著. 众智译. 爆炸物理学[M]. 北京: 科学出版社,1963: 36 – 44.

[12] 刘玉存,王建华,安崇伟,等. RDX 粒度对机械感度的影响[J]. 火炸药学报,2004,27(2): 8 – 9.
LIU Yu-cun, WANG Jian-hua, AN Chong-wei, et al. Effect of particle size of RDX on mechanical sensitivity [J]. *Chinese Journal of Propellants & Explosives*, 2004, 27(2): 8 – 9.

Preparation and Characterization of Ultra-fine A_5 Booster

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Abstract: In order to overcome the defects of conventional A_5 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 A_5 booster was developed by coating ultra-fine RDX with stearic acid. The mould powder of ultra-fine A_5 booster was acquired by aqueous suspension technology. The FT-IR spectra and stereo scan photograph of ultra-fine A_5 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 A_5 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 A_5, the experiment of energy output shows: its steel engraving is 0.241 mm deeper than that of conventional A_5.

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

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