- Problems and developments in composition B modification research[J]. *Hanneng Cailiao*, 2001, 9(4): 183 186.
- [3] Arthur Provatas. Energetic polymers and plasticisers for explosive formulations: A review of recent advances [R]. ADA 377866,2000.
- [4] LEE, Kennneth E. Reformulation of composition C-4 explosive [R]. WO 02/076911 A2,2002.
- [5] 何得昌,徐军培,柴皓,等. 添加剂对 TNT 成型性能的 影响[J]. 火炸药学报,2000,23(3):41-42.
- HE De-chang, XU Jun-pei, CHAI Hao, et al. The effect of additives on the forming properties of TNT[J]. *Chinese Journal of Explosives & Propellants*, 2000, 23 (3): 41 42.
- [6] 徐瑞娟,罗宏,王新峰,等. 改性 B 炸药中添加剂的作用机理[J]. 火炸药学报,2003,26(2):5-7.

 XU Rui-juan, LUO Hong, WANG Xin-feng, et al. Effect of additives on the modified composition B[J]. Chinese Journal of Explosives & Propellants,2003,26(2):5-7.

Research on Dispersion and Emulsification of Wax Caused by Emulsifier in Composition B

WANG Li-qiong¹, ZENG Qing-guo¹, WANG Xiao-ning¹, HUANG Hui², HUANG Yong², HU Run-Zhi³

- (1. National Key Laboratory of Prevention and Control of Explosion Disasters, Beijing Institute of Technology, Beijing 100081, China;
 - 2. Institute of Chemical Materials, CAEP, Mianyang 621900, China
- 3. Spaceflight Technology Corporation, the 42th Graduate School of 4th Academe, Xiangfan 441003, China)

Abstract: By experiments of emulsification stability and observation of microscope photographs, effects of two kinds of emulsifier polyvinylpyrrolidone and lecithin on dispersion of wax in composition B were studied. It is concluded that polyvinylpyrrolidone can decrease surface tension of wax effectively and disperse wax in melting composition B in small wax drop, but make color of the system darken. While adding lecithin in the system, change of the color isn't obvious, but stability time of the system is shorter. However, the mixture composed of lecithin and NC is a good complex emulsifier for dispersing wax in composition B and doesn't result in color change of the system. The differences between microstructures without emulsifier, with single emulsifier and with complex emulsifier are given in this paper.

Key words: physical-chemistry; polyvinylpyrrolidone; lecithin; dispersion and emulsion; wax; microstructure; composition B

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