

Effect of parameters on recrystallization of explosives using supercritical anti-solvent process

서범준, 이병민, 이병철<sup>1</sup>, 김현수<sup>2</sup>, 이윤우\*  
서울대학교; <sup>1</sup>한남대학교; <sup>2</sup>국방과학연구소  
(ywlee@snu.ac.kr\*)

The performance and stability of an explosive depend largely on its particle size and particle size distribution. Conventional methods for particle size reduction have drawbacks when they are applied to recrystallization of explosives such as high temperature, ununiform particle size distribution, and contamination by organic solvents. Supercritical fluid recrystallization processes are gaining interests as alternatives to the conventional methods because they can be operated in relatively lower temperature, can produce particles with narrow size distribution, and if carbon dioxide is used, particles without solvent residues can be obtained. Recrystallization of the explosive material by supercritical anti-solvent process is studied. The effect of various parameters are investigated by applying several analyzing methods such as XRD, FT-IR, and Differential Scanning Calorimetry.