

Precipitation of RDX by ASES process

서범준, 손원수, 이호연¹, 김현수², 이근득², 심정섭², 이윤우*
서울대학교; ¹(주) 한화 종합연구소; ²국방과학연구소
(ywlee@snu.ac.kr*)

RDX (cyclotrimethylenetrinitramine) is a well known compound, which is the second most widely used explosive worldwide. Since the performance and sensitivity of the explosive depend on the particle properties such as the size, size distribution, morphology, and residual solvent of the particles, particle formation is a major issue for the explosive. To effectively control the particle properties, recrystallization of RDX to produce micro- or nano- particles has been done by various methods such as RESS (Rapid Expansion of Supercritical Solutions), SAS (Supercritical Anti-Solvent), and evaporative spray drying. In this work, RDX was precipitated by SAS process using solvents such as acetone and DMSO. The focus is on the effects of parameters such as the solvent, the temperature and the pressure during the precipitation on the obtained particles.