

Title: Ultrasound, Surfactants and Polymers: Curtailing Particle Size and Distribution by Liquid Antisolvent Precipitation

Session: 01C12 Particle Synthesis and Stabilization

Abstract: Precipitation of ultra-fine particles of antifungal agent Griseofulvin (GF) from its organic solution in acetone has been attempted using water as liquid antisolvent. Ultrasound and high jet velocities are used to achieve enhanced micromixing of organic solution and antisolvent. Polymers and surfactants have been used to decelerate the growth of the particles by coagulation and condensation. It is shown that fine submicron particles can be precipitated by lowering the mixing time by enhanced micro-mixing and/or increasing the precipitation time by increasing viscosity and decreasing interfacial surface energies (and thereby controlling the Ostwald ripening) with the use of polymer and surfactants.

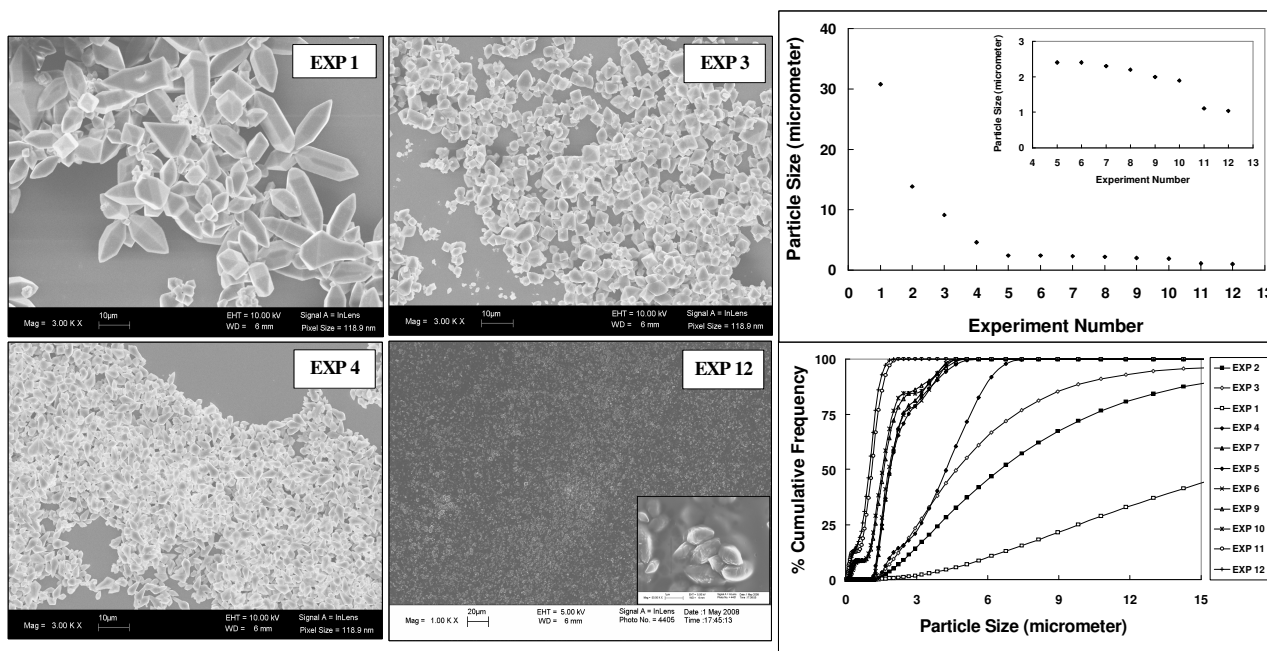


Fig. 1: Control of particle size and distribution (with optimized set of parameters) and SEM micrographs, of Griseofulvin particles precipitated from its acetone solutions by using water as antisolvent