

INCREASE IN SATURATION SOLUBILITY AND DISSOLUTION VELOCITY OF DRUG

Rajesh Chatakonda,
Santhiram College of Pharmacy,
Nandyal, Andhra Pradesh.

ABSTRACT

Dispersed systems show physical instability due to Ostwald ripening which is responsible for crystal growth to form microparticles. Ostwald ripening is defined as the tendency for a particle dispersion to grow in diameter over time; by a process in which the smaller particles dissolve because of their higher solubility, with subsequent crystallization onto larger particles to form microparticles. Ostwald ripening is caused due to the difference in dissolution velocity/ saturation solubility of small and large particles. In nanosuspensions all particles are of uniform size hence there is little difference between saturation solubility of drug particles. Ostwald ripening is totally absent in nanosuspensions due to uniform particle size, which is also responsible for long-term physical stability of nanosuspensions. Dissolution of drug is increased due to increase in the surface area of the drug particles from micrometers to the nanometer size.