عنوان مقاله:

Physical Distribution of Nano particles by Ultrasonic Operation

محل انتشار:

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خلاصه مقاله:

In this method, particles are separated from each other using destructive energies such as ultrasonic vibrational energy. The propagation of ultrasonic waves in solution produces very large local pressures thousands of times the atmospheric pressure, which breaks the bond from clumping. Changing the pH of the plating bath changes the zeta potential of the particles. Zeta potential is the electric potential that exists at the boundary between the solid surface and the liquid environment in which the solid particles are located and is a function of the surface charge of the particle, the adsorbed layer at the interface, the type and composition of the medium in which the particle is suspended. The magnitude of the zeta potential of a particle is a measure of the interaction of particles in such a way that it can be used to predict the long-term stability of the solution. If the particles have a positive or negative charge, they tend to repel each other and resist agglomeration. On the other hand, if the particles have low zeta potential, there is no factor to prevent the particles from agglomerating and as a result, the particles become agglomerated. The boundary between stable and unstable solutions is +۲۰ mV and -۲۰ mV, which means that if the zeta potential of the solution is more than + ۲۰ mV or less than -۲۰ mV, the solution is usually stable, and if the zeta potential is between +۲۰ mV and -۲۰ mV, there are unstable solutions and agglomerated particles.

کلمات کلیدی:

Changing the pH, Energy, Agglomerated, long-term stability