Solutions To Particle Sizing System And Particle Characterisation

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Particle size analysis is a mandatory process employed in all pharmaceutical, toiletry and cosmetic manufacturing companies including laboratories, chemical manufacturing companies, printing industry and more.

Have you ever speculated on particles present in powder, granular materials, fluid, etc.? It is but a fact that particles are sorted according to size in these mediums, which many often cannot be differentiated or seen with the naked eye. Particle size distribution defines the amounts of particles present in all mediums whether it is solid, liquid or powder and the method involved is generally termed as particle size analysis. To determine particle sizing, certain specific particle sizing system is used as per the method involved. The instruments used can vary from a particle size analyzer to a coulter counter, or the like.

Particle size analysis is a mandatory process employed in all pharmaceutical, toiletry and cosmetic manufacturing companies including laboratories, chemical manufacturing companies, printing industry and more. Particle sizing demonstrates precise size ranges and their sorting. The physical and chemical properties of materials in terms of particles. Particles operational in chemical reactions including those present in tablets, capsules, printer toner, cosmetics, etc. can best be determined by particle sizing.

Particle sizing system may differ from process to process. Few of the most commonly used particle size analysis or particle size distribution measurement techniques are the sieve analysis, range analysis, optical counting, electro-resistance counting, sedimentation techniques, laser diffraction methods, and acoustic spectroscopy. Out of all these measurement processes, sieve analysis is the simplest, cheapest and facilitates ease of interpretation. In this process, the powder or particle is separated on sieves of different sizes including narrower size ranges. Fibrous materials, printer toner, cosmetic powder and the like are analysed by this particle sizing system. Particle sizing in this method is defined in terms of ?m.

Optical counting involves measurement of millions of particles microscopically against graticule and counting using specialized electron particle sizing system. Electroresistance counting is based on counting size of pulses in liquids, measuring their momentary changes. For particle sizes below 10 ?m, sedimentation technique is the best, which studies the terminal velocity acquired by particles during sedimentation process. In cases where laser beams pass through a dispersion of particles in air or liquid, the sizes of which is below 1 ?m, laser diffraction method is applicable. Determining particle size analysis by employing ultrasound, especially in fluid, is an expensive process, yet gives very precise measurements. This particle size analysis technique is also termed as acoustic spectroscopy.

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