

### Introduction

The particle size analysers are a Malvern Zetasizer 3000HS with on line autotitrator and an Horiba LA-920. This instruments allows measurement of both particle size in the range 1 nm to 3  $\mu\text{m}$  and 0.02 micrometers to 2000 micrometers and zeta potential of particles in the range 5 nm to 30  $\mu\text{m}$ . Knowledge of the parameters of zeta potential and particle size is a powerful research and development tool for investigating the stability of dispersions and emulsions. The zeta potential is a measure of the magnitude of the repulsion or attraction between particles. The zeta potential of a dispersion or emulsion is one of the major parameters that control dispersion stability. Monitoring this parameter can shorten product formulation times, discover the mechanisms responsible for a dispersion's stability, and optimize flocculation where this is required.

### Technical Specifications

- Particle size range 2 nm to 3  $\mu\text{m}$
- Zeta potential of particles in the range (5nm to 30  $\mu\text{m}$ )

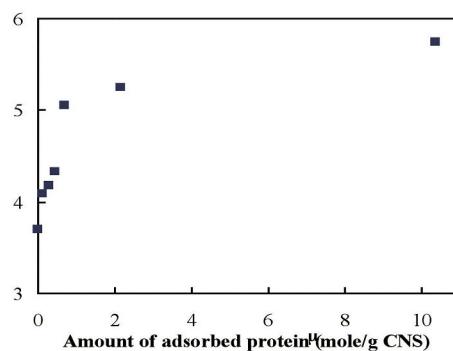


Figure 1. Plot of Isoelectric point (IEP) versus amount of protein adsorbed for a cyano – modified silicate – protein suspension

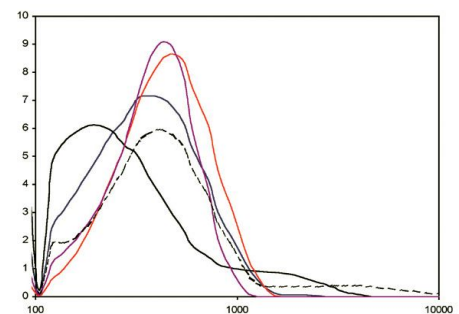


Figure 2. Particle size distributions for range of mesoporous silicates



