

Preparations of Stable Aqueous Dispersions of Calcium Carbonate and Clay Nanoparticle

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Abstract

Precipitated calcium carbonates (PCC) and china clays nanoparticle were characterized using laser light diffraction technique. The size of clay nanoparticle was 310 nm and that of PCC was 1.3 μm . The shape of the PCC and clay nanoparticle seemed similar as determined by SEM. The streaming potentials and net charges of all china clay nanoparticle dispersions were negative respectively. The dispersing agents are deionised water and polyvinylpyrrolidone (PVP). PVP acted as a stabilizing agent also. Rheological measurements and the determination of the sedimentation behavior by centrifugal separation analysis allow the investigation of the dispersions in an expanded concentration region under real conditions.

Keywords: Clay, nanoparticle, precipitated calcium carbonates (pcc), stability