

Abstract Submitted  
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**Analysis of emulsion stability in acrylic dispersions<sup>1</sup>** SURESH AHUJA, Retired — Emulsions either micro or nano permit transport or solubilization of hydrophobic substances within a water-based phase. Different methods have been introduced at laboratory and industrial scales: mechanical stirring, high-pressure homogenization, or ultrasonics. In digital imaging, toners may be formed by aggregating a colorant with a latex polymer formed by batch or semi-continuous emulsion polymerization. Latex emulsions are prepared by making a monomer emulsion with monomer like Beta-carboxy ethyl acrylate ( $\beta$ -CEA) and stirring at high speed with an anionic surfactant like branched sodium dodecyl benzene sulfonates, aqueous solution until an emulsion is formed. Initiator for emulsion polymerization is 2-2'-azobis isobutyramide dehydrate with chain transfer agent are used to make the latex. If the latex emulsion is unstable, the resulting latexes produce a toner with larger particle size, broader particle size distribution with relatively higher latex sedimentation, and broader molecular weight distribution. Oswald ripening and coalescence cause droplet size to increase and can result in destabilization of emulsions. Shear thinning and elasticity of emulsions are applied to determine emulsion stability.

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