

## Dispersion Polymerization of Styrene Using an Amphoteric Initiator in Alcohol

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The polystyrene (PS) microspheres were produced by dispersion polymerization in alcohol medium using a novel amphoteric initiator, 2,2'-azobis [N-(2-carboxyethyl)-2-2-methylpropionamidine] hydrate (VA-057). The PS microspheres synthesized with VA-057 were more monodisperse and larger in size than those prepared by a conventional initiator such as AIBN or BPO. The average diameter of the PS microspheres was 2.0 – 2.5  $\mu\text{m}$  and the coefficient of variation of the particles was ranging 2.5 – 4.0 % with the varying concentration of the stabilizer, poly(vinyl pyrrolidone).

Especially, when the concentration of PVP was reduced to 1 and 2 wt % relative to monomer content, individually stable and monodisperse PS microspheres were synthesized, while polydisperse or coagulated particles were obtained using AIBN or BPO. This result indicates that the amount of the stabilizer could be remarkably reduced to produce monodisperse PS microspheres when an amphoteric initiator was employed.