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**EFFECT OF THE MAIN PARAMETERS ON PARTICLE SIZE DISTRIBUTION OF NANO PARTICLE OF POLYSTYRENE MADE BY MINIEMULSION POLYMERIZATION**

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Miniemulsions have some unique and desirable properties. They are far more robust to variations in the recipe or contaminant levels than conventional emulsions. Particle number was found to be less sensitive by at least an order of magnitude, to changes in initiator, water-phase retarder, and oil-phase inhibitor concentrations than macroemulsion polymerizations. This is because, unlike macroemulsion polymerization, there is no competition between particle nucleation and particle growth for the available surfactant. Miniemulsions tend to have a greater shear stability than macroemulsions, probably due to the lack of the small number of polymerized monomer droplets found in macroemulsions. Miniemulsion polymerization has been used to produce nano particles that are very useful for some applications such as environmental concerns & governmental industry. In this work, nano particle of polystyrene was produced by miniemulsion polymerization .DLS & TEM was used for characterizing nano particle of polystyrene .at last, we could produce nano particle of polystyrene with controlled particle size & narrow particle size distribution.