EuroSciCon

4th Edition of International Conference on

Polymer-Biopolymer Chemistry

March 18-19, 2019
Amsterdam, Netherlands

Mohammad Raza Miah et al., Polym Sci 2019, Volume:5
DOI: 10.4172/2471-9935-C1-017

SYNTHESIS OF MODIFIED SILICONE POLY-ACRYLATE COATING AGENT USING BY MONOMER, INITIATOR, AND EMULSIFIER

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Newly synthesized coating agent was carried out on lab scale by emulsion polymerization technique. Modified silicone poly-acrylate coating agent was synthesized by using soft, hard, functional monomers for example- octamethylcyclotetrasiloxane (D4) and including other basic polymerizing monomers: Ethyl Acrylate (EA), Butyl acrylate (BA) and Styrene (ST). Also we have used coupling reagent as a catalyzer, fatty alcohol- Acrylic Acid (AA) and as an emulsifier- polyethylene oxide (AEO-9), as an initiator- ammonium per-sulfate (APS), to eliminate formaldehyde- N-methylol acrylamide (NMA). And need to maintain- PH adjustor, deionized water and ammonia water as required. Coating agent should be soft, good film, high strength, good elasticity, excellent wash ability, strong adhesion, excellent transparency and low cost and easy to implement production. The suitable conditions of reaction, keeping temperature (100 minutes), APS (0.6% on mass of monomers) and prepolymerization time (180 minutes), are helpful to obtain a product with excellent properties. Polymerization pH value of pre-emulsion and pH value of product emulsion act remarkable effects on the yield, and cost. Because the moderate pH value of medium, pre-emulsion (pH 4) & product (pH 7-8), is helpful to obtained a product with excellent properties were performed in laboratory scale and analyzed. The experimental results we have got moderate hand feel (Tg value is 16.48˚C), pass signal for sublimation test, durability test, staining resistance, and yellowing and softness test is comparatively satisfied and excellent film forming ability followed by standard method.

Biography

Mr. Mohammad Raza Miah has completed his M.Sc. in Textile Engineering at the age of 29 years from Wuhan Textile University and PhD candidates from the University of Chinese Academy of Sciences (UCAS), Ningbo Institute of Materials Technology and Engineering (CNITECH), Solid State Functional Materials Laboratory. He has published more than 10 papers in reputed journals and has been serving as an editorial board member of repute. His research interest lies in the area of polymer synthesis, Structure-property analysis, Coating & protective clothing. His research focuses on the development of polymer materials using different polymerization technique, and application on substances.

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