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Synthesis, Characterization and Viscometric Study of Carboxymethyl Epoxy Resin Based Polyesters

R. K. Patel

Research Scholar, Rai University, Ahmadabad, Department of Chemistry, M.G. Science Institute, Navrangpura, Ahmedabad,Gujarat, India

ABSTRACT:

Viscometric study of solutions of various carboxymethylated epoxy resin based polyesters in 1,4-dioxane solvent was carried out. Measurement was performed using ubbelohde suspended type viscometer. The viscosity for all CMPE solutions were determined in 1,4-dioxane at 30± 0.1°C. The viscosity data of all solutions suggest the decrease in concentration of solution which increases reduced viscosity (η_{red}). Therefore the CMEF resins act as polyelectrolyte of anionic type. The viscosity of the solution in 1,4-dioxane suppressed by adding water and KBr, though the intrinsic viscosity measurements are carried out for all resin solutions in Dioxane-Water-KBr having 75:25:1% ratio. Also empirical equation was adept to represent the viscometric data for all the resins. It may be stated that as the equation is quite empirical.

$$\eta_{sp/C} = Z = [\eta] + \frac{k[\eta]}{C^{1/2}}$$

Keywords: Polyelectrolyte, CMPE, reduced viscosity, empirical relation and intrinsic viscosity.