"Studying some Properties of Polyethylene Glycol4000 in Different Conditions"

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In this research, studying the increase in concentration, heating, ultra-violet rays, and reinforcement on properties of polyethylene glycol (PEG4000) which include the absorbance, ability of dissoluble, viscosity and hardness. The results represent the solubility decreases with the increase of concentration by effecting the heat and radiation except the specimen of 3 gm which increase its solubility by increasing sample thickness(increasing the concentration of solution). The relative viscosity increases by augmenting the concentration while the intrinsic viscosity decreases with the increase in concentration and each of them decrease by heating and first time of radiation(48hr) and increase in the second time of radiation(96hr), and the flow time follow the same manner of relative viscosity in increasing an decreasing ,as well as, the absorbance increases with concentration and decreases with heating and the first time of radiation (48 hr) , but it increases with increasing the time of radiation to (96 hr) with increasing the concentration, but the permeability is opposite manner of the absorbance at the same conditions, while Shore hardness decreases with increasing the weight ratio of AL for the samples without radiation and it increases after the radiation for each intervals.

Abstract:

In this research, studying the increase in concentration, heating, ultra-violet rays, and reinforcement on properties of polyethylene glycol (PEG4000) which include the absorbance, ability of dissoluble, viscosity and hardness. The results represent the solubility decreases with the increase of concentration by effecting the heat and radiation except the specimen of 3 gm which increase its solubility by increasing sample thickness(increasing the concentration of solution). The relative viscosity increases by augmenting the concentration while the intrinsic viscosity decreases with the increase in concentration and each of them decrease by heating and first time of radiation(48hr) and increase in the second time of radiation(96hr), and the flow time follow the same manner of relative viscosity in increasing an decreasing, as well as, the absorbance increases with concentration and decreases with heating and the first time of radiation (48 hr) , but it increases with increasing the time of radiation to (96 hr) with increasing the concentration, but the permeability is opposite manner of the absorbance at the same conditions, while Shore hardness decreases with increasing the weight ratio of AL for the samples without radiation and it increases after the radiation for each intervals.