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RHEOLOGICAL CHARACTERIZATION OF ALGINATE-CHITOSAN BASED POLYMERIC GELS

Basim Abu-Jdayil, Deeb Abu Fara,

Chemical & Petroleum Eng, UAE University

**Corresponding author: babujdayil@uaeu.ac.ae*

Alginates are naturally derived linear copolymer of 1,4-linked ?-D-mannuronic acid (M) and ?-L-guluronic acid residues (G). About 30,000 metric tons/yr of sodium alginates are currently used in the food, cosmetic, pharmaceutical, textile and paper industries as thickening, stabilizing and jellifying agents. Many pharmaceutical processes such as new ingredient selections and formulation preparations are associated with a complex of materials. Therefore, rheological measurements, an important route to revealing the flow and deformation behaviors of materials, cannot only improve efficiency in processing but can also help formulators and end users find pharmaceutical and products that are optimal for their individual needs. In this work, the rheological properties of mixtures of Alginate-Chitosan are measured. In addition, the rheological behavior of cross-linked gels of Alginate and Chitosan systems were characterized under the effect of different types and concentrations of cross-linkers such ascalcium chloride, barium chloride and aluminium chloride.