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Rheological Analysis of Gelatine and New Developed Substitute (Plant Base Material) in Halal Capsule Development

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ABSTRACT

The most abundant sources of gelatin production are pig skin, contributing about 50% of total gelatin production in 2007. Gelatin is widely used as major ingredient in capsule production because of its unique properties which is best in delivering active pharmaceutical ingredients (API). Gelatin capsule is easily melted in water at a temperature above 30 °C and will release encapsulated drugs into the human digestive tract due to temperature, gastric pH and the action of digestive enzymes. However, religious and ethics restrict the use of animal based materials in capsules and required the development of gelatin alternatives. Rheological methods were used as tools to compare and understand therheological behaviour between gelatin and the newly developed substitute (plant base material).From this research, the gelatin's melting and gelling temperatures wereset as a bench mark for thenewly developed substitute besides studying the viscosity and gel rigidity properties.The benefits of having the rheological data as a guideline to optimize the appopriate parameters and rheological behaviours of the newly developed substitute.

Keywords: *Gelatin, capsule, rheology, substitute.*