

*International Conference on***PHARMACEUTICAL AND BIOMEDICAL ENGINEERING***October 16-17, 2017 Osaka, Japan***The formulation of a suspending vehicle****Toni-Bianca DiPaolo^{1,2}, John Marriott¹, Zhibing Zhang¹, Yogesh Patel² and Jon Andrew Preece¹**¹University of Birmingham, UK²Lexon UK Ltd., UK

Pharmaceutical specials are oral liquid dosage forms prepared by dispersing the Active Pharmaceutical Ingredient (API) into an appropriate liquid base, the suspending vehicle. The current issue surrounding pharmaceutical specials is that they have poor stability and short shelf-life; hence they cannot be prepared in advance. Instead, they are prepared as soon as a prescription is received. This is incredibly time consuming, inefficient and not cost-effective. Therefore, it is beneficial to formulate a novel, stable suspending vehicle which allows for specials to be prepared in advance, left on the shelf, and used when required. A potentially unique, novel vehicle has been formulated at lab scale. It has comparable results to commercial vehicles in terms of rheology, viscosity and aesthetics, with some additional benefits. The method is now being replicated at larger scales using 2 liter and 5 liter mixing vessels of standard configuration and geometry, with eventual application at industrial scale being the main aim. Mixing rule studies looking at the effect of important mixing parameters such as impeller speed, mixing time and temperature on the rheology and viscosity of the formulation have been carried out in order to obtain the optimal mixing parameters. Once the final formulation is confirmed, stability, suspendability and compatibility tests involving both the suspending vehicle on its own and with the API suspended in it will be carried out.

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