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Dimensionless Binding Values in the Evaluation of Paracetamol Tablet Formulation

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Abstract : Mechanical properties of paracetamol tablets containing Neem (Azadirachta indica) gum were compared with standard Acacia gum BP as binder. Two dimensionless binding quantities BEN and BEC were used in assessing the influence of binder type on two mechanical properties, Tensile Strength (TS) and Brittle Fracture Index (BFI). The two quantities were also used to assess the influence of relative density and binder concentration on TS and BFI as well as compare Binding Efficiencies (BE). The result shows that TS is dependent on relative density, binder type and binder concentration while BFI is dependent on the binder type and binder concentration; and that although, the inclusion of NMG in a paracetamol tablet formulation may not enhance the TS of the tablets produced, however it will decrease the tendency of the tablets to cap or laminate. This work concludes that BEN may be useful in quantitative assessment while BEC may be appropriate for qualitative assessment.

Keywords : binding efficiency, brittle fracture index, dimensionless binding, tensile strength
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