ABSTRACT

EFFECT OF KOLLIDON CL CONCENTRATION ON THE PHYSICAL CHARACTERISTICS OF CO-PROCESSED EXCIPIENTS MANNITOL - KOLLIDON CL – PVP K-30 FOR ORALLY DISINTEGRATING TABLET
(Prepared With Fluid Bed Granulation Method)

Hilya Nur Imtihani

Orally disintegrating tablet (ODT) is a tablet that can be rapidly disintegrated in saliva less than one minute. Direct compression was the simplest method to produce ODTs. However, no single material is likely to exhibit all the ideal characteristics for direct compression method. Therefore, manipulation of excipient functionality by co-processing was used to achieve the ideal excipients for this method. The aim of this research was to determine the effect of 5% and 10% Kollidon CL concentration as superdisintegrate on the physical characteristics of co-processed excipients with mannitol as a base and PVP K-30 as a binder. Fluid bed granulation method was chosen because this method can produce smooth granules with good flowability, homogeneity, and tablets with high mechanical strength and fast disintegration time.

Co-processed excipients were evaluated for bulk density, tap density, compressibility index, Hausner’s ratio, flow rate, angle of repose, moisture content, distribution of particle size, hardness, disintegration time, dilution potential and granules morphology with Scanning Electron Microscope (SEM). The results showed that higher concentration of Kollidon CL will significantly increase the moisture content. The disintegration time of tablets prepared with higher concentration of Kollidon CL was significantly faster in tablets compressed with 0.5, 1.5, and 2 ton pressure. The increasing concentration of Kollidon CL did not significantly effect the flow rate, angle of repose and hardness of the tablets.

Keywords: Orally Disintegrating Tablet, co-processed excipients, Kollidon CL, Fluid bed granulation, physical characteristics.