

Thesis Title Effects of Aqueous Dispersion Film Coating Polymers on
 Propranolol Hydrochloride Pellets.

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ABSTRACT

Pellets containing 40% propranolol HCl and 60% microcrystalline cellulose (Avicel[®] PH101) as model drug and diluent, respectively, were directly prepared by using fluid-bed rotary granulator. Pellets having mesh cut of 16/18 were further coated with aqueous polymeric dispersion of colloidal ethylcellulose in fluid bed bottom spray coater. The influences of subcoating with hydroxypropyl methylcellulose and amount of colloidal ethylcellulose on pellet proportion were evaluated. Surface morphology of pellets and coated pellets and cross section of polymer film were also examined by using scanning electron microscope.

The dissolution profiles showed that subcoating with hydroxypropyl methylcellulose improved the quality of subsequently coating and it slightly caused the retardation of drug release from the pellets. At low quantity of ethylcellulose film (7.5% w/w theoretical weight increased) some film ruptures were noticed after dissolution test. A higher level of coate (10% theoretical weight increased), could be produced and slow drug release rate was resulted.

Addition of hydroxypropyl methylcellulose in the film coating could increased releasing rate of drug through the film. It was found that the approximate 70% of drug release followed zero-order kinetic fashion.