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Influence of Drug Solubility, Binders and Pellet Size in Formulating Sustained Release Pellets

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SUMMARY. **The aim of the present study was to investigate the effects of drug solubility, inert pellet size and binders used in drug loading on release behavior from Eudragit NE-30 coated pellets. Aqueous solutions of highly water soluble drugs, diltiazem hydrochloride and chlorpheniramine maleate while hydro-alcoholic solutions of poorly soluble drugs, diclofenac sodium and theophylline were applied onto inert pellets to produce drug pellets, which were subsequently coated with aqueous polymer dispersion using bottom spray fluidized-bed coater. Coated pellets were cured at 37 ºC for 24 h prior to dissolution studies. Drug release from coated pellets using different drugs showed different release profiles. The larger size pellets displayed significantly slower release rate compared to smaller size pellets. A faster drug release was achieved with PVP for drug loading in contrast to slower release profile with HPMC. Drug pellets can be differentiated using scanning electron microscope compared to pellets coated with Eudragit NE-30.**

KEY WORDS: Eudragit, Extrusion-spheronization, Fluidized-bed coating, Sustained release pellets.

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