Thesis Title Evaluation of Ascorbyl Palmitate as a Tablet Lubricant.

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ABSTRACT

The ability of ascorbyl palmitate as a tablet lubricant was investigated as well as its influence on the finished tablets. The effects of lubricant concentration and the mixing time on tableting and tablet properties were studied using microcrystalline cellulose (MC), pregelatinizied starch (PS), and lactose monohydrate (L) special grade for tableting as direct compression fillers. The evaluation was carried out by comparing with the results obtained from magnesium stearate and stearic acid. Using an instrumented tablet machine, both compression and ejection forces could be monitored. Ascorbyl palmitate reduced the ejection force to about the same degree as did magnesium stearate but had less effectiveness in antiadherent and glidant activities. Increasing in the lubricant concentration, ascorbyl palmitate caused greater reduction in tablet strength than did magnesium stearate.

Prolonged mixing of ascorbyl palmitate did not affect the tablet strength. In hydrochlorothiazide formulations using L as a directly compressible filler, ascorbyl palmitate exhibited lower adverse effects on both disintegration and dissolution than did magnesium stearate. Good colour stability of directly compressible ascorbic acid tablets was found with the formulas using ascorbyl palmitate as lubricant whereas discolouring occured in formulas using magnesium stearate or stearic acid. Stearic acid was found to be the least effective lubricant and antiadherent of all direct compression fillers studied.