

release rate constant(k_r) values.

In contrast, the amount ratios of insoluble filler (Emcompress) to soluble filler(lactose) appeared to greatly influence the drug release rate as evidenced in the increased release rate with decreasing Emcompress content in the matrix. This was theoretically related to the change in porosity value of Higuchi's equation as the insoluble-soluble filler ratio was changed. The kinetics of drug release was determined and found to precisely conform to the Higuchi's planar matrix model and fairly to the first-order release, the rate constant of which was employed as the design parameter in manufacture of controlled release dosage forms.

Correlation between the drug release rate and the types of filler as well as compression forces was developed on the basis of Higuchi's planar matrix model via the porosity term and found to be in acceptable agreement with the experimental values.