

## Abstract

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Title of Thesis: Homogenization of powder blends using a high-speed  
mixer

This work focuses on using a high-speed mixer for the powder mixing process in pharmaceutical technology. Shortened experimental plan was used to study the influence of three factors (mixing speed, mixing time and weight of the mixture) in order to achieve the overall homogeneity of the mixture containing acetylsalicylic acid and microcrystalline cellulose. Individual samples were compressed into tablets. The homogeneity of the mixture was evaluated using near infrared spectroscopy (NIR). The standard deviations of the measured spectra were observed. The best results obtained from studied mixtures were achieved by a combination of mixing 150 g of mixture, rotational speed of 900 rpm and mixing time of 30 seconds.