

## Abstract

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Title of Thesis:                        Study of consolidation behaviour of lactose and its blends

Flow behaviour and consolidation properties are important characteristics of the powder substances. The aim of this thesis was to evaluate these properties for four types of lactose with different particle size and for the mixtures of two lactoses with different flow properties. The density and porosity of the powder bed and their changes during the consolidation due to the gravitational tapping were studied. The non-linear regression equation was used to describe the consolidation process for the samples and the parameter  $N_{1/2}$ , which expresses the number of taps needed to achieve a half reduction of a powder bed volume. The value of  $N_{1/2}$  increased with the decrease in the particle size.