

Abstract

Charles University in Prague, Faculty of Pharmacy in Hradci Králové

Department of: Pharmaceutical technology
Supervisor: doc. PharmDr. Zdeňka Šklubalová, Ph.D.
Student: Julie Pazderková
Title of Thesis: The evaluation of flow properties of lactose

Lactose is one out of the traditional excipients used during the manufacturing of tablets. This diploma thesis describes flow properties of four commercially available grades of lactose, which differed in the preparation technique (milling, granulation). Three methods of bulk density evaluation and two methods of angle of repose determination were studied. It is recommended to form cone-like pile on the layer of material with regulation the distance between the hopper and the base. This process is better than forming the pile on teflon base. The relationship between bulk and consolidation behaviour of lactose and the geometric characteristics were studied. To describe the consolidation performance of materials, the expression of dependence of Hausner ratio on the number of taps can be recommended. A Brouckere mean diameter $D[4,3]$ is suitable criterion for the studying of the correlation between the shape of particles and their flow. The use of Brouckere mean diameter should be investigated using other materials in future.