

Research Internship, Bachelor Theses

Experimental study for the characterization of cohesive pharmaceutical powders

Motivation

The success of any industrial process depends on the ability to handle the materials used. When attempting to classify these materials into the commonly known physical states of gas, liquid and solid, powders present a challenge. Powders play a role in about 75% of all industrial processes, mainly in the chemical, pharmaceutical and food industries. Therefore, much effort is put into understanding and characterizing the behaviour of powders.

On the one hand, powders consist of solid particles, on the other hand, powders show a liquid-like behaviour. Cohesion plays an important role in very small particle size powder handling.



Bild 1: Instruments for the characterization of powders

Work objectives

The aim is the investigation of cohesive pharmaceutical powders. Using our instruments (Bild 1), material parameters of various pharmaceutical powders, such as particle size distribution, particle shapes, and flow behavior, are to be determined.

We are looking for students who enjoy process engineering with powder and work independently and carefully.

Work packages:

- Test on the measuring system: rheometer, Qicpi (dynamic image analysis), Helos (particle size and particle size distribution with laser diffraction), static and dynamic angle measurements
- Documentation of the results.

Start

Immediately

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