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Powder Blending and Segregation Model Subroutine Within Abaqus

A powder blending and segregation model predicts blend quality and process efficiency by adjusting formulation and process conditions, offering a time-saving alternative to traditional experimental approaches.

Currently, engineers in industries that handle bulk solids, such as pharmaceuticals, chemicals, food products, and agriculture products, and want to predict the degree of blending and segregation of non-cohesive powders use a design of experiments approach, which is often time consuming and costly. There is a need for a more optimal and efficient way to handle bulk solids.

Researchers at Purdue University have developed a powder blending and segregation model that can predict the degree of blending and segregation by modifying formulation and process conditions. The software described requires only Abaqus*/Explicit V6.14 or later and no additional hardware as long as it can run Abaqus/Explicit. It can improve product quality and process efficiency.

Advantages:

-Improves product quality

-Increase in process efficiency

-No additional hardware

Potential Applications:

-Powder blending

-Finite element analysis

-Pharmaceuticals, chemicals, food products, and agriculture products

*Trademark

Technology ID

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Category

Agriculture, Nutrition, & AgTech/Precision Agriculture & Smart Farming
Pharmaceuticals/Computational Drug Delivery & Nanomedicine
Chemicals & Advanced Materials/Materials Processing & Manufacturing Technologies

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Intellectual Property:

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