FREUND VECTOR

Your Global Equipment and Processing Solution

Case Study:
Fluid Bed: Wurster Coating

Pharmaceutical Grade Coating of Fine Powders using Freund-Vector's Wurster Accelerator System

The Process...

This trial contributes to the development of a novel coating process of very fine powders with diameters of around **30µm**. The innovation lies in Freund-Vector's patented wurster spray system that utilizes an outer sleeve placed around the wurster gun called the Wurster Accelerator. The accelerator creates an adjustable air curtain that diverts product away from the spray nozzle tip, optimizing product movement through the spray zone and reduces processing times.

The product had excellent coating uniformly and the agglomeration level was virtually zero as evidenced by the particle size graph below.

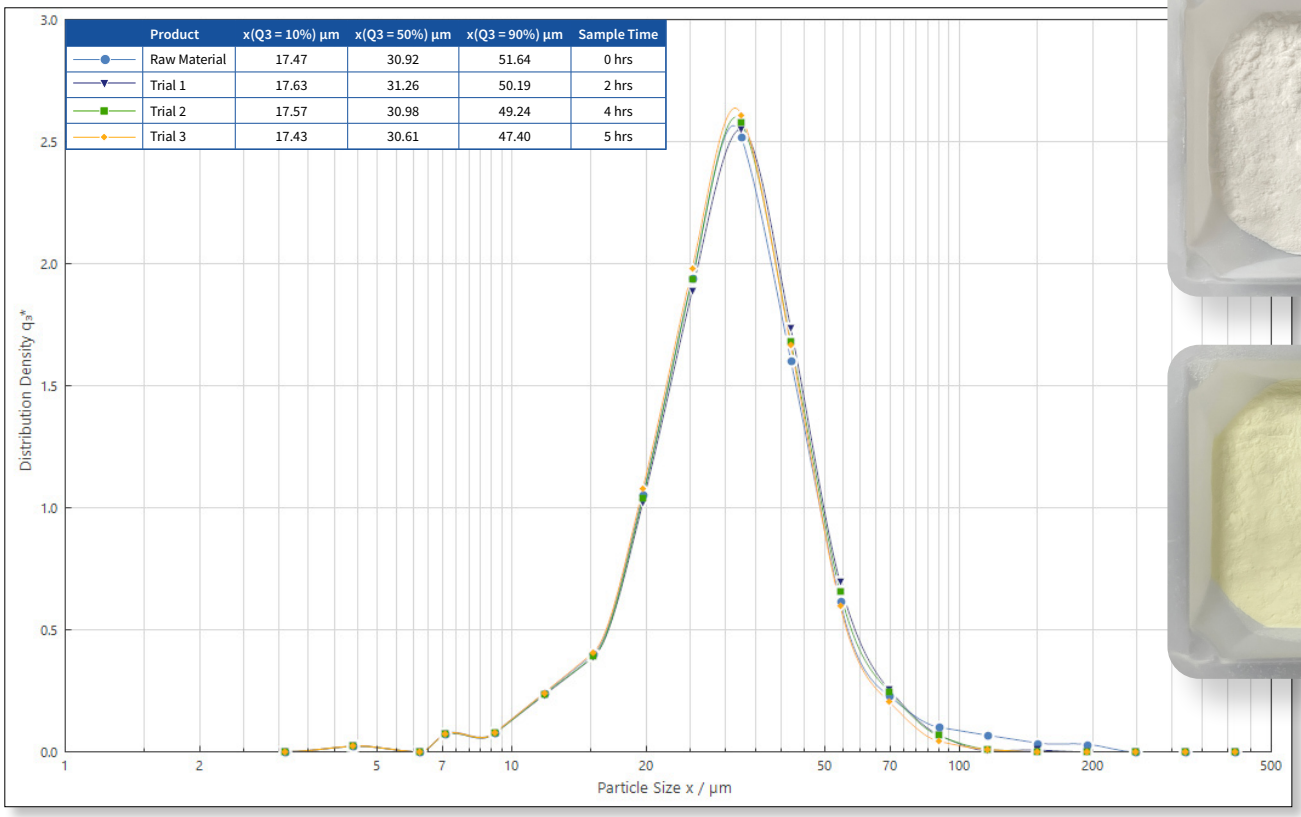
General Information...

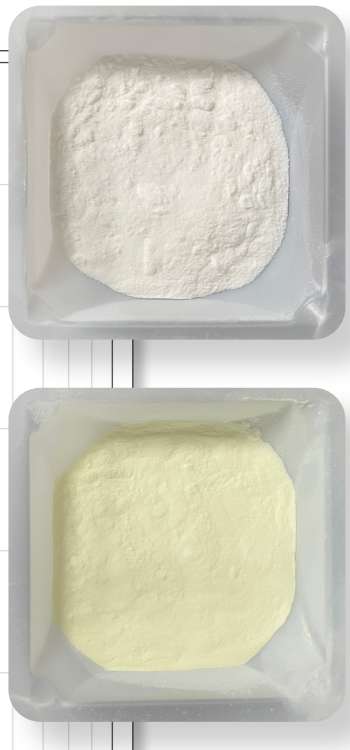
Process Equipment:

- ✓ VFC-LAB 3 with 8" Wuster Accelerator
  - 1.2mm Nozzle
  - 2.6mm Air Cap
  - FP2 Air Distribution Plate
  - Betamesh50 Product Retention Screen
  - Pleated Polyester Filters
- ✓ IKA Overhead Mixer

Parameters...

Partition Height:	0.5"
Batch Size:	2 kg
Solution:	Proprietary
Airflow:	25 cfm
Nozzle Air:	20 psi
Accelerator Air:	10 psi
Inlet Air:	47° C
Product Temp:	32 - 34° C
Solution Amount:	5.718 kg
Spray Time:	298.1 min
Bulk Density:	0.19 g/cc
Tapped Density:	0.241 g/cc





The Conclusion...

The ability to adjust the accelerator air played a crutial role in coating particles of this size and density all while having negligible agglomeration defect. The results of the trials demonstrates the Wurster Accelerator system effectively coats particles with an average size of **30µm**. From these series of tests, Freund-Vector can state equivalent processing results for starting particles as low as 10µm.