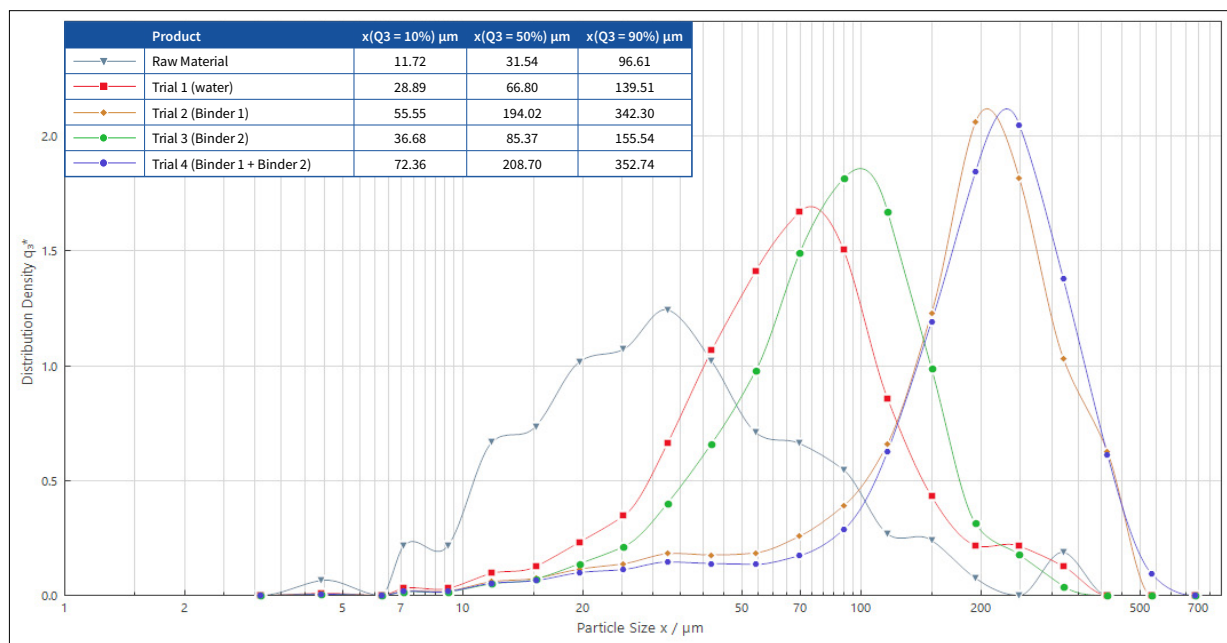


Instantizing of a Non-Soluble Nutritional Supplement Powder using Top Spray Processing

The Process...

Nutritional supplements are essential macronutrient that helps build muscle, repair tissue, make enzymes and hormones. With a rising demand for healthier ingredients and cleaner processes, supplements can be added to foods, beverages, and more all while still eating a healthy and balanced diet.

The starting raw material powder is not soluble in water, so the following series of trials contributes to the development of a “*Instantizing for Suspension*” top spray granulation process to increase the flowability and suspension characteristics in a solution while using a variety of natural binding agents.



General Information...

Process Equipment:

- ✓ VFC-LAB 3 FLO-COATER®
 - 1.2mm Nozzle
 - 3.4mm Air Cap
 - Conidur Plate
 - Pleated Polyester Filters

Parameters...

Trial 4

Batch Size:	2 kg
Solution:	Binder 1 + Binder 2
Airflow:	60 - 65 cfm
Atomization Air:	16 - 20 psi
Inlet Air:	55° C
Product Temp:	30° C
Solution Amount:	1.8 kg
Spray Rate:	25.2 g/m
Spray Time:	96 min
Yield:	92%

The Conclusion...

The binder formulation plays a crucial component in keeping the nutritional supplement dispersed and suspended for sustained periods of time.

The binder formulation changes the viscosity of the material slightly, allowing the larger particles to remain suspended.

