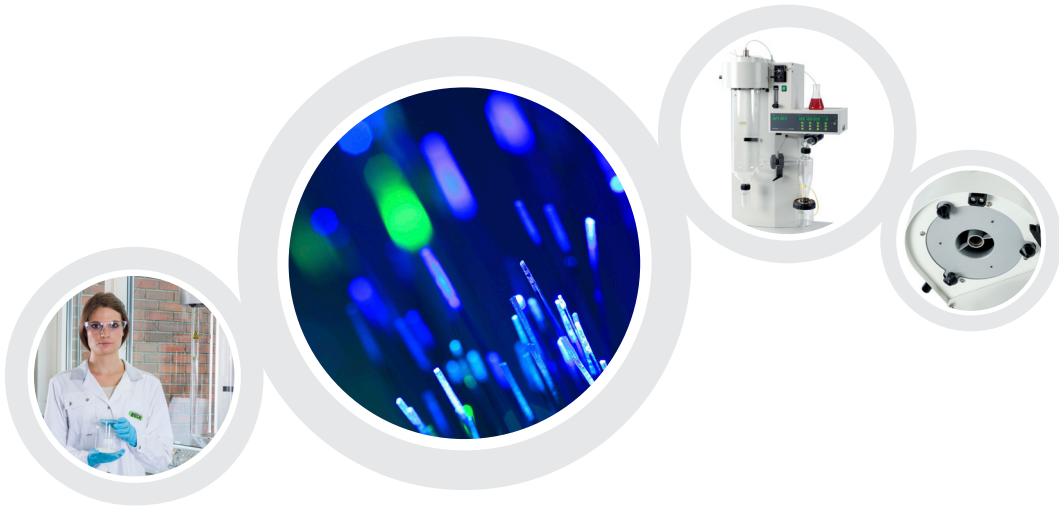




Case Study

Spray Drying for ceramic applications



Customer: Large R&D Center, India

One of the largest multidisciplinary research and development center outside the U.S. They work in virtual teams with their counterparts worldwide, in areas like electromagnetic analytics, composite material design, color technology, additive technology, nondestructive evaluation, corrosion technology, MEMS, molecular modeling, power electronics, analysis technologies, computational fluid dynamics, and engineering analysis.

Application: Ceramics, batteries, luminescent materials

Researchers in the Ceramic Synthesis and Processing Lab are developing materials that display improved performance, reliability and functionality. The lab has produced ceramics for a variety of applications including luminescent materials for high-efficiency lighting, ceramic superconductor wires for next generation MRIs, new chemistry for hybrid batteries, scintillators for CT machines and magnetocaloric materials for refrigeration.

Equipment: Mini Spray Dryer B-290 and Inert Loop B-295

The BUCHI Spray Dryer is a speedy, time-saving and gentle method to obtain even the smallest quantities of substances in powder form.

Benefit / Conclusion: Time reduction, cost savings

This company used to try to do the concentration step to a residual volume using a single Rotavapor R-200. Using the Syncore Analyst, they can evaporate and concentrate 6 samples in about 45 minutes compared to 1 sample in 60 to 70 minutes. Moreover, with the Rotavapor there was no control to prevent evaporating to dryness and the loss of analytes, which would ruin the analysis. The Flush Back Module and “Cold” appendix on the Syncore Analyst prevent the loss of trace level PAH’s during the evaporation process.

“We are very happy with the spray drying method, and the instrument is handy and easy to clean.”
