# AUTOMATION SOLUTIONS FOR SALT PRESCREENING AND POLYMORPH SCREENING STUDIES

Drug candidate polymorphism has become a concern in today's pharmaceutical research labs as it affects a number of issues from processing characteristics to bioavailability. During the pre-formulation stage of drug development, polymorph screening is a tedious and time-consuming but essential process.

Zinsser Analytic has developed Crissy®, an automated liquid and powder handling platform for salt pre-screening and polymorph screening studies. This platform automates the necessary steps for extensive crystallization using different solvents, temperatures, concentrations, agitation and pH-measurement.

A special Crissy reactor block has been designed to directly present the crystals for detection without any additional sampling steps. The construction of the reactor minimizes cross contamination caused by electrostatic forces from moving the powders. The block itself is grounded and the individual reactor cavities are separated from each as a result of the unique reactor design.

Crissy makes tedious polymorph screening easier. Automating the crystallization is not only time-saving but it increases the amount of salts being crystallized while reducing the risk of destroying the crystal structure when presenting it for detection.

Crissy accomplishes the objectives by:

- Automation of the necessary steps for extensive crystallization experiments, precise distribution of solid candidates, using different solvents, temperatures, concentrations, agitation, pH-measurement, HPLC subsampling etc.
- All essential steps are completed on the same platform
- Special reactor block for direct analysis (XRPD, Raman spectroscopy, etc.) without additional sampling steps
- Powerful software designs the experiment, which is then combined with the control software WinLissy, the scheduling tool WinRun and a data collection module which stores all data created in an internal database.