Title:

A Case Study of Data-driven and Model-Based Scale-up Approach for API Process Development

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Abstract:

This presentation details a practical, data-driven and model-based approach to scale up a highly exothermic reaction of API process. The chemistry involved catalytic "sleeper" reactions in multiple phases (liquid / liquid / solid / solid), large heat of reaction, the presence of flammable solvent and the potential of in-situ oxygen formation. Lab calorimetric data, Dynochem scale-up models and safety measures used to ensure process safety in pilot plant operations are discussed. A comparison of model prediction to actual pilot plant data of jacket cooling temperature is also presented.