

Lab ACOMP

Transform your polymer R&D with realtime analytics



Challenges

Inadequate Resources

PhDs needed to run experiments and analyze data
Numerous reactions needed to optimize product development

Intermittent Data

Analytical bottlenecks
Poor determination of root causes due to lack of insights

Inefficiency

Slow or ineffective scale up of new product
Redundant lab work

Solution

Lab ACOMP is used to monitor the synthesis of new polymer products or optimize existing processes by continuously analyzing polymers during reactions.

Benefits



Accelerated Product Development

Faster recipe optimization
See kinetics in real time
Synthesize complex molecules



Modelling/Control

Improved scale-up
Generate kinetic parameters for modelling
Implement advanced control strategies directly



Efficiency

Reduce number of experiments
Stop reactions when targets are met
Simple reporting and analysis

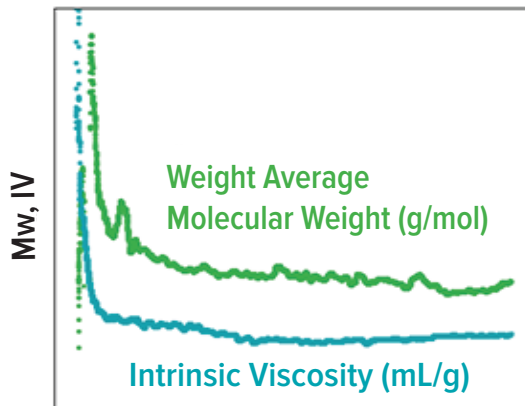


Safety

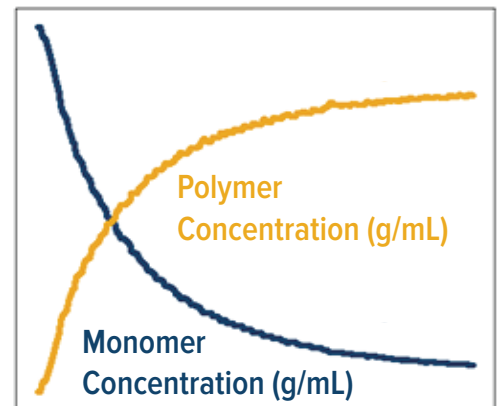
ACOMP samples directly from reactor
Kill toxic reactions remotely
Abort runaway reactions automatically

Monitored in Real Time See what is happening, not what happened!

- Molecular Weight
- Intrinsic Viscosity
- Composition
- Monomer Conversion
- Residual Monomer
- Process Anomalies



Time



Time



ACOMP

Transform your business with realtime analytics



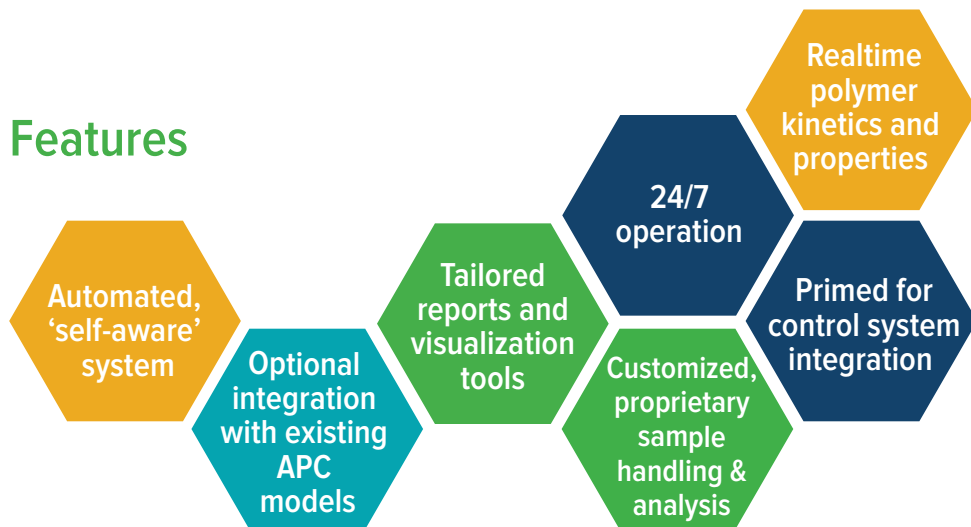
Challenges

- Poor Control**
 - Lack of realtime data prevents correcting process upsets
 - Reliance on PhDs for modeling and intervention
- Off-Spec**
 - Batch rework and losses
 - Higher inventory
 - Periodic write-offs of dead stock
- Reduced Efficiency**
 - Slow or ineffective scale-up of new product
 - Redundant lab work
 - Poor determination of root causes due to lack of information
- Quality Deviations**
 - Inconsistent batches
 - Customer complaints of shipped “on spec” material with poor properties

Solution

ACOMP is a smart manufacturing system that continuously analyzes polymers during production. This automated monitoring solution produces realtime data about reaction kinetics and polymer properties.

Features



Benefits



Increased Polymer Yield, Quality and Consistency



Reduced Cycle Times, VOCs and Material Usage



Optimized Process Control



Anomaly Detection During Production

Example of Benefits

Production capacity (tons/klbs)	60,000
Material price (\$/kg or \$/lb)	3
% product cost including labor	50%
% off-spec	4%
% cost of off-spec	60%
% of off-spec reduced by using ACOMP	50%
Value created (annual)	\$1,080,000