



KODAK Specialty Chemicals Division

A powerful partner for your products and processes.



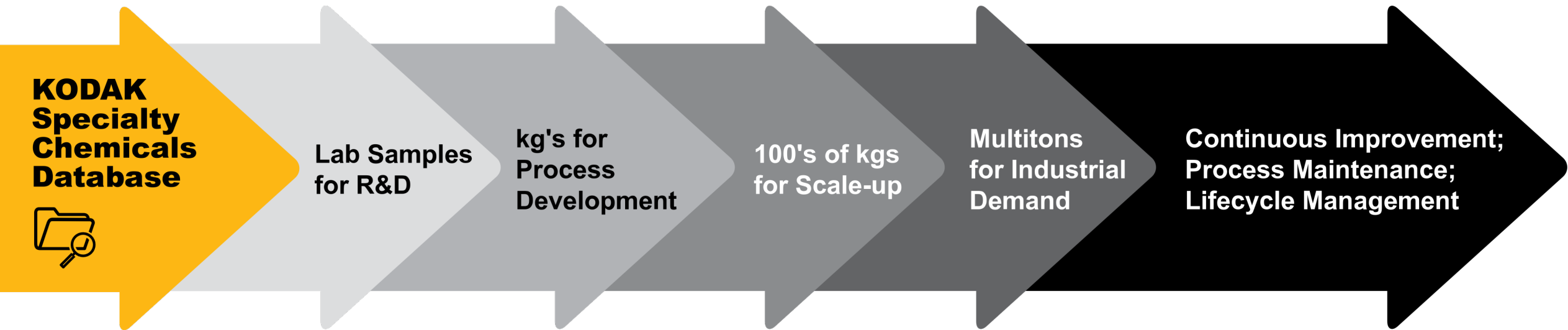
**CAPABLE OF DELIVERING
DRY AND LIQUID CHEMICAL PRODUCTS**



KODAK Specialty Chemical proprietary database – what makes us different

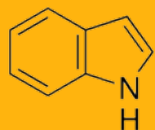
- More than 250 scientists, researchers, technical and production specialists take part in our scale-up, product development, and manufacturing operations at Kodak. Their expertise in heterocyclic chemistry is borne of years inventing functional dyes, couplers and other materials for film and paper – plus infrared dyes resulting from years of experience working with lasers for thermal printing and medical imaging.
- **With a proprietary database of over 100,000 molecules, 30,000 patents and more than 1,500 approved manufacturing processes**, Kodak customers can capitalize on our comprehensive synthesis expertise in complex heterocycles and organic products, functional dyes, photoactive compounds and specialty polymers.

From our database to industrial production

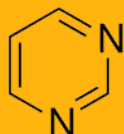


Output of up to 250 MT p.a.

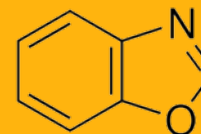
One of our Strengths → Heterocycles



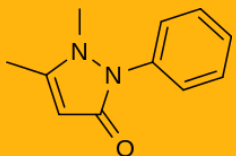
INDOLES



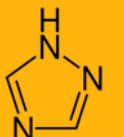
PYRIMIDINES



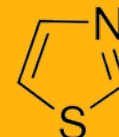
BENZOXAZOLES



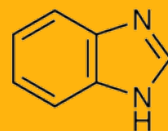
PYRAZOLONES



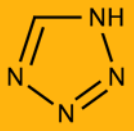
TRIAZOLES



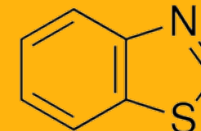
THIAZOLES



BENZIMIDAZOLES



TETRAZOLES



BENZOTHIAZOLES

Please revert to our Heterocycles Catalogue – Samples available!

Our know-how and experience embrace a universe of chemical reactions.

Send cas-no. and product name to: specialtychemicals@kodak.com

One of our Strengths → Specialty Polymers

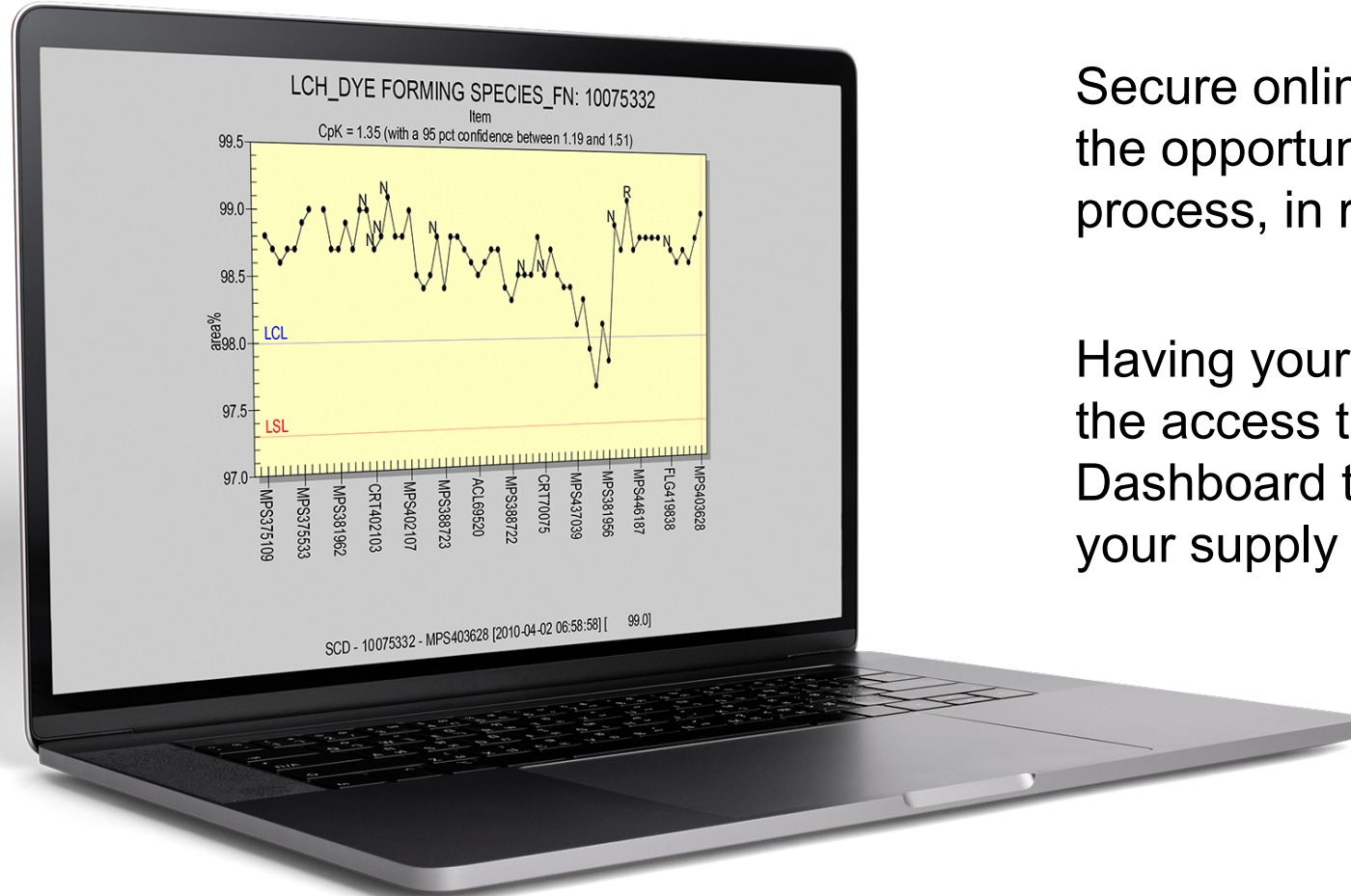
- KODAK Specialty Chemicals has a long history of producing synthetic polymers for our imaging products using batch and semi-continuous processes.
- Applications of polymers in imaging products include dispersants, rheology modifiers, matting agents, dye receptors, and durability enhancers.
- The polymerization processes we practice include solution, emulsion, and suspension free-radical addition polymerizations, solution polyurethanes, and anionic ring-opening polymerization.
- Our capability of controlling particle size distribution in oil-in-water emulsions has proven useful for encapsulation technology.

Our know-how and experience embrace a universe of chemical reactions.

Send cas-no. and product name to: specialtychemicals@kodak.com



Kodak's Unique On-Site Analytics Dashboard: See your data in real time!



Secure online portal granting our customers the opportunity to access and monitor a process, in real time, from your own computer.

Having your products made at Kodak, you will have the access to our unique On-Site Analytics Dashboard that provides greater access to your supply chain in real time.





Capacity to Execute from the Bench to Large Scale

STANDARD

Batch Reactors

- 88 G/L and SS Reactors
- Distributed Controls
- Pilot to 1000-gallon scale

Isolation Equipment

- Centrifuge, Filter press & Membrane press

Ultrafiltration

Drying

- Rotary & Tray dryers

Grinding, Blending, & Custom Packaging

SPECIALIZED

- Pilot-high pressure reactors
- High Vacuum Distillation
- Wiped Film Evaporator
- Agitated Dryer
- Filter Dryer
- Powder Compaction

Distillation plant for solvent recovery

CAPACITY TO EXECUTE

KDOAK Specialty Chemicals Project Management with Stage-Gate-Approach



Gate 0



Gate 2



Gate 4



Gate 6



From pilot scale-up of “new to the world” custom organic molecules to Contract Manufacturing of several metric tons, **KODAK Specialty Chemicals** has a long and trusted history of providing scale to innovation.

- Change Management
- Statistical Process Control Tools
- Design for Manufacturing
- ISO 9001-2015
- ISO 14001

Design of Experiments

Each one of our processes is designed through extensive experimentation and testing. For each new process to the pharma market, we ensure that the scale-up of non-GMP RSMs can be completed in multiple different ways, while minimizing waste, utilizing control charts, and operating under principles of six-sigma and lean methodology. Our significant focus on DoE aligns with the FDA's push for QbD.



Specialty Chemicals Summary

Batch, Multi-step Organic Chemical Synthesis

- Annual quantities in 1 MT to 250 MT range
- Experience and history in complex heterocycles

When Demanding Quality Parameters are required

- Statistical Quality Control processes fundamentally applied throughout Manufacturing
- Design of Experiments methodologies applied in Process Development & Troubleshooting applications & aligns with FDA's push for QbD
- Highly capable Analytical Technologies resident to monitor required specification set

On-Site Analytics Dashboard provides greater access to your supply chain

- Secure online portal granting customers the opportunity to access and monitor a process, in real time, from their own computers

Raw Material sourcing from global perspective

Application of Lean Methodologies providing competitive Supply Chain efficiencies





KODAK Specialty Chemicals Division

Founded to make images.

**Today: Make your
imagination real.**



Thank You