



# Better Chemical R&D Data Management: The Expressway to Market Success



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In the fast-paced world of specialty chemicals and formulation development, leading organizations need to leverage every tool available to speed up their journey to market success while reducing risk. Here, we explore how data capture and analytics solutions can revolutionize R&D workflows. You'll learn how to:

- Increase efficiencies by recording experiments in a common digital platform
- Implement leading data management techniques for real-time analysis
- Transform data into valuable chemical product development insights

Whether you're developing polymers, coatings, additives, functional materials, or other state-of-the-art chemical products, you won't want to miss out on these game-changing advantages. Read on for expert insights, solutions descriptions, and more.

## How Chemical Industry Challenges Relate to Data

Whatever your specialty chemistry area of focus, you need to develop new products to give your company and customers a competitive edge. Making commercially viable products is time-consuming if the way you handle data is not satisfying the rapidly changing demands of your business and the marketplace.

Five key challenges for innovators

- 1. Speed to market.** It's essential to beat your competition in the race to market.
- 2. Process improvement.** Speed must be balanced by attention to quality and risk management, ensuring the resulting products perform as planned.
- 3. Cost of materials.** Cost and availability of materials must be factored in when selecting the best formulation to advance in the research pipeline.
- 4. Unmet market needs.** Advanced materials must address emerging and evolving market needs to ensure customer adoption.
- 5. Intellectual property protection.** A thorough review of the legal landscape is necessary to avoid future patent issues—and to protect your own IPs.



**Data-driven testing and analysis help you answer key questions: Would modifying your existing formulations offer a better payoff? How can you optimize your synthesis or formulation process to increase yield while decreasing cost and time? Are the recommended manufacturing techniques environmentally sustainable?**

Do any of these common internal challenges sound familiar? Data mismanagement can be found at the root of each one.

- **Long discovery time** — Directionless investigation relies on luck to produce novel formulations or modify existing ones to suit new applications or meet performance and cost parameters.
- **Time-consuming data search** — Without clear organization, the sheer volume of formulations and ingredients makes search and retrieval of important details time- and labor-intensive.
- **Delayed work** — Costly slowdowns can occur if scientists don't know what materials are available in-house, what needs to be ordered, and what it should cost.
- **Difficulty meeting test criteria** — Teams at each step of your product development pipeline need consistent data tracking to know that their ingredients and formulations meet the relevant standards.
- **Inefficient sample tracking** — Scientists need a central, standardized system to catalogue samples and related results effectively, such as linking sample names and product data sheets to avoid errors.
- **Interference in testing** — Inefficient management of people, samples, instruments, and other resources can hinder timely, high-quality testing.
- **Limited collaboration** — Without advanced data collection and communication systems, it's hard to get a holistic view across all stakeholders, enable collaboration, and track progress across all programs to ask informed questions.

According to Gartner: Based on Revvity Signals Software experience working with customers in the specialty chemicals industry:

**\$15**  
**MILLION USD**  
Loss per year due to poor data quality

**17%**  
Data loss per year due to a lack of digital records

Batch ID	Type	Coverage (%)	Dry to Touch (hr)	Mass Avg	Viscosity (KU)	VOC (g/L)	Volume of ...	Weight% A...
0090-01	Semi-Gloss (90)	393.00	4.27	18.15	93.67	128.64	37.93	12.50
0090-02	Semi-Gloss (90)	382.00	4.14	18.58	92.33	133.37	38.24	12.50
0090-03	Semi-Gloss (90)	385.67	3.82	18.68	93.00	134.25	38.02	12.50
0094-01	Soft	472.00	4.24	22.22	101.57	42.18	41.88	14.20



### Finding Data Management Solutions that Fit Your Needs

Whether you're strengthening an industrial adhesive or developing a new paint formulation that can withstand extreme temperatures, you need a complete, consistent, and collaborative data environment that meets the scientific and technical needs of your organization and your customers.

Revvity Signals Software experts have decades of experience designing smart data capture and analytics solutions that solve the real-world problems faced by specialty chemicals organizations. Our powerful data management tools help you understand the relationships between components and product performance, resulting in more efficient decision making and a faster product development cycle.

With faster data capture, data processing, decision making, and materials tracking, you can reduce risk and retain greater flexibility to respond to market demands based on predictive modeling. Our integrated and collaborative environment allows you to share complex data across geographies in a secure and compliant manner. It also enables easy monitoring for IP protection. Our solutions have been proven to scale from small operations to enterprise companies with thousands of users and multiple locations, helping organizations of all sizes develop products faster and with higher success rates.

### Revvity Signals Software solutions in action

For a leading sustainable manufacturer of carbon black additives, Revvity Signals Software solutions delivered:

- **20-30% time-savings**
- **15% cost reduction per user by reducing the need for re-doing experiments**
- **25% improvement in IP protection because of structured compliance data management**
- **4x increase in response time to regulatory questions and findings**

A major electronics giant reported deeper collaboration across multiple management and technical levels using Revvity Signals Software solutions. Day-to-day users at the company said they benefited from the functionality and intuitiveness.

An international chemicals, logistics, and energy company reported that Revvity Signals Software solutions transformed the R&D culture, with easier collaboration and results-sharing. Users noted that the solutions were easy to use and produced improvements in productivity and the security of R&D data.





### Integrated Tools for Your Innovation Journey

Each of our software solutions target specific information roadblocks that stand between you and the marketplace. Together, they offer an end-to-end way to capture, manage, and analyze data so you're making the best choices at every turn along the way.



#### SIGNALS NOTEBOOK: BETTER COLLABORATION

Signals Notebook, a cloud-based electronic laboratory notebook (ELN), improves collaboration and productivity for innovators, decision-makers, chemists, engineers, and testing experts by making experiments and results easily accessible. It covers a comprehensive set of scientific use cases and improves productivity and data transparency through enhanced collaboration, streamlined workflows, and lab automation. It also includes dedicated inventory automation for enhanced materials management, enabling users to lookup, link to, and update experimental materials within the ELN.



#### SIGNALS INVENTA: ACCELERATED SCIENTIFIC DECISION-MAKING

Signals Inventa is a next-generation data management system for analyzing scientific results. Powered by Revvity's innovative Signals Data Factory and TIBCO® Spotfire® technology, it includes enterprise-class visual analytics and discovery platform technology to enable quick access and analysis of results throughout the R&D cycle. Signals Inventa offers multi-parametric optimization and scoring tools, structure performance relationship identification, and powerful predictive analytics to correlate materials properties with performance and quickly focus on formulations that meet desired criteria.



#### CHEMDRAW®: OPTIMIZED SCIENTIFIC COMMUNICATION

With its origins as a chemical drawing tool, ChemDraw® has steadily evolved to become the leading chemically intelligent solution to help you perform quick structure searches across all documents where chemical information is stored and manage collections of molecules and reactions with their associated properties.

### The Road Ahead

Join leading specialty chemicals companies that are using Revvity Signals Softwares' solutions to power their innovation journey. Take control of your data to achieve better ROI for your specialty chemicals R&D.

Visit [revvitysignals.com/solutions/specialty-chemicals](https://revvitysignals.com/solutions/specialty-chemicals) to find more details and connect with a specialist.

