

Processing

SOLUTIONS FOR THE PROCESS INDUSTRIES



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CLOSED LOOP CONTROL

A silver-bearing metal company combined an integrated diaphragm pump with a controller to manage fluids.

PURE-FUSE DIAPHRAGMS FOR HYGIENIC APPLICATIONS

Wilden's pure-fuse diaphragms perform better and can be cleaned more easily for hygienic applications with clean-in-place capability and reduced contamination risks. The technology incorporates a one-piece design that eliminates product-trap areas between the outer piston and diaphragm that can harbor bacteria, a critical consideration for hygienic applications.

Wilden
www.wildenpump.com

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MIXING SOLUTIONS HAVE AUTOMATIC OVERLOAD & OVER TEMPERATURE PROTECTION

SPX FLOW's two new mixing solutions from its Lightning brand are designed for simple blending, solids suspension, high viscosity and gas-liquid applications. The mixers use a brushless DC motor and have automatic overload and over temperature protection. Impellers can be adjusted through the use of stainless steel chucks and through shafts.

SPX FLOW Inc.
www.spxflow.com

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FEATURED PRODUCT

CONTINUOUS DENSE PHASE CONVEY SYSTEM FOR STABILITY

Schenck Process' E-finity is a low pressure continuous dense phase convey system for fragile materials, ideally suited for granular and pelleted materials. Precise pressure monitoring and airflow corrections allow the system to operate efficiently under all conditions, while gently inducing materials through the convey line in slug form.



Schenck Process
www.macprocessinc.com

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CONVEYING TECHNOLOGY USES ENTRAINMENT DEVICE

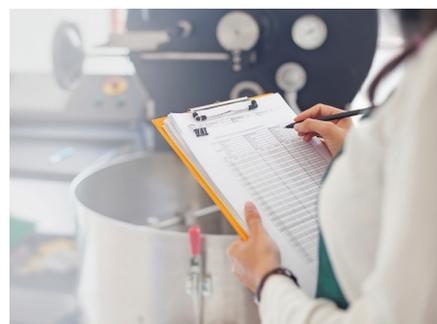
Smoot Company's ECOPhase pneumatic conveying technology uses a specially designed entrainment device called a magveyor. It allows a system to operate continuously while achieving high solids loadings and helps the conveyor run more efficiently to reduce energy consumption and costs, in some cases by more than 50 percent.

Smoot Company
www.smootco.com

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WEB EXCLUSIVE



5 FOOD PACKAGING SAFETY STEPS

Performing quality checks and detecting physical contaminants can prove challenging, even with X-ray inspection systems specifically designed to inspect food packaging.

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GHS LEARNING CURVE

What was, and is, necessary to comply with the new labeling requirements

By Chris Cocanig & Dennis Bonvouloir, Peak-Ryzex Inc.

In June 2015, another Globally Harmonized System of Classification and Labelling of Chemicals (GHS) deadline passed — a deadline that called for all chemical manufacturers and distributors to fully comply with the new, more detailed labeling requirements.

How did they do? As expected, companies that started early, involved the proper information technology (IT) and regulatory personnel, and approached the mandate as an opportunity to evaluate and update their existing systems and practices were by and large successful in meeting the deadline and complying with labeling requirements.

Compliance concerns

As many have learned, GHS compliance is a cumbersome process involving multiple factors, including label size and material, printing volume, number of stock keeping units (SKU), the host printing system, existing equipment, and software. Knowledgeable personnel must review and understand all of these factors, gather individual product information, redesign label elements to include pictograms, signal words and hazard, and offer precautionary statements. Then they must work with environment, health and safety (EHS) and IT personnel to execute label production using the right printing equipment and label media.

These changes and the need to potentially requalify label media and printing supplies such as ribbon, toner and ink to meet both GHS and internal specifications for adhesion, durability and internal operational needs proved to be a daunting task. Successful companies saw the magnitude of these processes and got assistance from experienced integrators who helped facilitate the connection between the label media/supplies, printing equipment and the IT host for effective implementation of a comprehensive GHS-compliant system.

Past deadline

Unfortunately, and also as expected, some companies underestimated the amount of time the process would take — for complex operations, up to nine months. They waited too long to get started, consulted too few or under-qualified personnel, and sometimes lacked an understanding of the interdependent relationship between label printing and IT infrastructure. Some faced the added challenges of embedded structures on existing labels such as label numbering, which are sometimes proprietary and designed for one specific type of printer. These structures do not easily translate to new GHS printer technology, causing the company to have to re-engineer that part of

the process. This slowed down — and sometimes even stalled — the time to implementation.

Still others allotted a reasonable amount of time for the transition, gathered the appropriate personnel and formulated a solution, but nevertheless they missed the deadline because of a delay in delivery of printing equipment. Following the June 1 deadline, one chemical manufacturer reported being 12 weeks out for delivery of printing equipment and materials because of the increased demand fueled by GHS. Across the landscape, this appears to be a legitimate reason for missing the deadline. Printing equipment manufacturers and suppliers are confirming these reports, stating they are behind in production and

delivery due to GHS and the increased demand, especially of thermal printers and supplies.

Thermal printers have become a popular choice for producing GHS labels. Many companies have had positive experiences previously using single-color (black) thermal printers combined with pre-printed color labels to meet past regulator labeling requirements, which explains their desire to continue using a thermal solution to produce GHS labels. Thermal printers are built for tough environments; offer high-volume options; can print red and black at the same time; can produce roll output for use with automatic applicators; and can print longer, wider labels than many other GHS-capable printers.

“As many have learned, GHS compliance is a cumbersome process involving multiple factors, including label size and material, printing volume, number of stock keeping units, the host printing system, existing equipment and software.”



▣ A 6-inch wide, two-color thermal printer.

📷 All images courtesy of Peak-Ryzex Inc.

For many, a lot of work remains, but benefits can be gained, especially for larger enterprises. Complex, multi-facility companies, for example, may experience cost savings revealed by a thorough GHS review. They may look at several sites and discover one plant is doing something completely different than all the others.

This can lead to a system realignment, reduction of label formats, equipment consolidation and material savings that otherwise might have gone unnoticed. Another example may be found in the label design. A simple adjustment to the placement of a diamond pictogram, for instance, may use less printer ribbon, saving money over time. A few have also taken advantage of on-demand color printing options now available, and they have used these options to produce marketing-quality logos on the product label along with the required GHS information.

Ultimately, printing color labels on demand is more efficient than pre-printing, but color printing itself is expensive. Some manufacturers may have been unprepared for this expense, but through a review of their label processes and with input from seasoned integrators, they have found ways to improve long-term efficiencies and effectively reduce the added expenses of printing color GHS labels.



↑ An 8-inch, on-demand color ink jet printer

What's next?

Much of the chemical manufacturing industry is in some stage of transition to full GHS compliance, and another deadline recently hit. Dec. 1, 2015 marked the end of the grace period for distributors to deliver old, pre-GHS-labeled products. Now, all chemical products must display the new GHS label. At this point, it is unclear how the Occupational Safety and Health Administration (OSHA) will respond to those who

HOW TO FOLLOW LABEL PRINTING COMPLIANCE

Evaluate printing needs. First, consider specific needs. Take container size into account as well as types of labels and ambient factors such as temperature and moisture levels in the containers' destinations. Also remember most manufacturers have printing needs aside from GHS-compliant labels

Consider the law. Required warnings, symbols and identifiers can govern other label considerations, such as size. Consider not only current needs, including graphical elements, but also any changes that may be implemented in the future.

Estimate costs. Total cost of ownership is an important factor to evaluate. Scrutinize not only the potential cost of each label, but also the cost of each individual printed image.

Take a holistic approach. It is often more beneficial to use one partner for all printing needs rather than having several entities involved. This ensures that all components work well together. It also ensures consistent quality, results and good customer service.



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missed the 2015 deadlines and what effect, if any, that may have on future deadlines.

Some industry professionals speculate OSHA may be lenient due to the printing industry's production and delivery backlog, but a definitive response remains to be seen. Were the GHS process to display its own label right now, the signal word would read "warning" along with pronouncing a precautionary statement for chemical manufacturers to take GHS compliance seriously. **PR**

Chris Cocanig is the manager for enterprise printing solutions for Peak-Ryzex Inc., and Dennis Bonvouloir is the vice president of global printer and media solutions/sales

operations for the company. Cocanig has been in the auto ID business for more than 20 years, has a degree in electrical engineering from DeVry University and is an engineer by trade. Bonvouloir joined Peak-Ryzex in 1997 and holds a Bachelor of Science in marketing from Bryant University. He has almost 30 years of experience in the printing and auto ID and technology industries. Peak-Ryzex Inc. is a Columbia, Maryland-based systems integrator of supply chain and inventory management solutions and services.

Peak-Ryzex Inc.
www.peak-ryzex.com

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↑ An 8-inch wide two-color thermal printer.



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GMO FOOD LABELING STIRS UP CONTROVERSY

Vermont has passed legislation requiring labels to denote products that contain genetically modified (GMO) ingredients, and General Mills followed suit in March by announcing it will comply with the law on a national basis because it is not practical to enact the change for only one state.

Some companies are still hoping that the U.S. Congress passes legislation against the state laws, but the Senate voted it down in March. The Grocery Manufacturers Association (GMA) has challenged the Vermont law in federal court, which was denied and is on appeal, and is promoting a national solution instead of state-by-state laws.

"[General Mills'] announcement is the latest example of how Vermont's looming labeling mandate is a serious problem for businesses," GMA said in a statement on March 18. "Food companies are being forced to make decisions on how to comply and having to spend millions of dollars. One small state's law is setting labeling standards for consumers across the country."

The Vermont requirement goes into effect July 1. It is the first state to pass such legislation, with Maine and Connecticut passing laws that require the labeling if neighboring states require it as well.

Nestle and Campbell Soup Co. supports the GMO requirement but favor a national approach, and Campbell has already begun printing new national labels.

"With the Vermont labeling legislation upon us, and with the distinct possibility that other states will enact different labeling requirements, what we need is simple: We need a national solution," Jeff Harmening of GE said in a blog post on GE's website.

According to GMA's website, the association believes the use of GMOs "is not only safe for people and our planet, but also has a number of important benefits." It touts that the technology has been around for 20 years, that 70-80 percent food s in the U.S. contain GMO ingredients and that it reduces the price of crops by as much as 30 percent.