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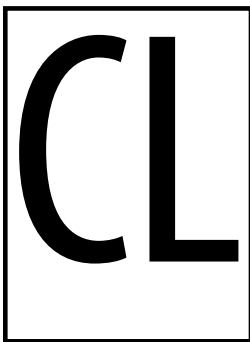
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Chemical Logistics

06.2015

Keep It Moving, Keep It Safe





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Chemical Logistics: Keep it Moving, Keep it Safe

As U.S. chemical production grows, chemical shippers and their partners refine their strategies to ensure trouble-free transportation, secure sufficient capacity, and navigate the regulatory landscape.

Thanks to an improved economy, the U.S. chemical market has been gaining strength in recent years and continues to grow. U.S. chemical production will increase by 3.7 percent in 2015 and another 3.9 percent in 2016, according to the American Chemistry Council's (ACC) latest annual report on the industry, published in December 2014.

U.S. companies made \$805.1 billion worth of chemical shipments in 2014, according to the ACC. The group expects that figure to rise to \$849 billion in 2015.

The word "chemical" covers a vast array of substances, including many that are sitting in your kitchen cabinets. But when people

talk about the challenges of chemical logistics, they're often referring to substances that must be treated with special care. Such hazardous products include substances that might explode, ignite, emit toxic gases, corrode the skin, or otherwise cause serious harm if not handled properly.

The risk of danger is what makes chemical logistics different from most other branches of supply chain management. "The safety programs of the companies you're dealing with need to be impeccable," says Tom Voelkel, president and chief operating officer of Dupré Logistics in Lafayette, La. Anyone who transports or stores a hazardous chemical must thoroughly understand how to handle that product.

The consequence of any error can be grave. "If a carrier has a problem while hauling chlorine, for example, you'd have to evacuate a small town," Voelkel says.

Safety Training

Because of the potential danger involved, employees at companies that move and store hazardous chemicals require special training. Some training is dictated by the U.S. Department of Transportation (DOT), which regulates how companies prepare hazardous materials (hazmat) for transit.

At Pacific Coast Warehouse Company's (PCWC) chemical third-party logistics distribution center in Chino, Calif., each employee takes one full day of DOT hazmat training every three years, plus an in-house course on hazard awareness, says Mark Burks, the facility's manager.

Burks himself has also taken training in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER), as required by the Occupational Safety and Health Administration (OSHA). "At first, I had to go through a 40-hour course," he says. "Now I take an annual eight-hour refresher course."

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PCWC's chemical distribution center (DC) provides third-party warehousing services for companies that use hazardous and non-hazardous chemicals in manufacturing. PCWC also handles various finished goods chemical products for retailers, distributors, and other customers.

At DCs owned by chemical distributor Brenntag North America in Reading, Pa., some employees require specialized training in handling chemicals. Brenntag buys chemicals in bulk from manufacturers, then repackages them in smaller containers—ranging from 55-gallon drums to 1,000-gallon bulk tanks—for delivery to local customers, using a private fleet.

"Employees who load the trucks learn to segregate materials that aren't supposed to come into contact with one another," says David Garner, senior vice president of operations at Brenntag. They also learn to affix the correct placards, indicating which hazardous materials the truck is carrying, according to the DOT's hazmat regulations.

Workers who repackage chemicals take a further level of training, focused on personal protective gear. DC staff follow rules laid out by DOT and OSHA, as well as the Environmental Protection Agency (EPA), which governs cleanup in case of a spill.

Be Reasonable

Beyond adhering to the letter of the law, many chemical distributors ensure safety by complying with the Responsible Distribution program, developed by the National Association of Chemical Distributors (NACD). This program, which is mandatory for NACD members, stipulates a series of safety measures every three years. A third-party auditor, chosen by the NACD, visits the company to make sure it's following those procedures to the letter.

"Part of the program is to make

sure we train our customers, verifying that if we sell them the more hazardous chemicals, they have the processes, procedures, and systems in place to handle those products safely," says Garner, who chairs NACD's Responsible Distribution Committee.

Another safety program, called Responsible Care, is mandatory for ACC members. "To conduct business in the chemical industry, you need to

transportation services. Its chemical services portfolio also includes specialized offerings, such as fulfilling orders for chemical samples.

Special Rooms and Equipment

Along with special procedures, chemical warehouses also require special environmental controls. For instance, the chemical DC operated by Weber Logistics in Santa Fe Springs, Calif., has separate rooms



A&R Logistics, a leading dry bulk carrier serving the plastics industry with a fleet of more than 800 trucks and 1,200 trailers, is 100-percent e-Log compliant. A&R supports its fleet with a nationwide network of 23 terminals and 10 warehousing and packaging facilities.

be up to speed with the Responsible Care program," says Glenn Riggs, senior vice president, corporate strategy at Odyssey Logistics and Technology (OLT) in Danbury, Conn. Like Responsible Distribution, this program requires careful monitoring to make sure a company adheres to all of its standards. "We perform internal audits on our processes around all the requirements, and then ACC auditors visit every three years," Riggs says.

Odyssey started its business as a service provider to the chemical industry. Although it has broadened its scope, it continues to serve that market with general logistics and

for different hazard classes—flammables, oxidizers, corrosives, and toxics. It also has temperature- and humidity-controlled rooms.

Safety concerns call for special material handling equipment as well. "We need EE-rated non-spark equipment, to prevent any kind of spark from igniting a vapor or gas," says John Rantz, manager at the Weber DC. Special padding and static guards ensure electrical equipment won't set off accidents.

"Because safety is crucial, a chemical warehouse usually undergoes numerous inspections," notes Jim Emmerling, senior vice president of operations at Weber.



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“Not only does the fire department regularly inspect us, but we also do our own internal quarterly audit,” Emmerling adds. “And the majority of our customers do at least an annual walk-through and evaluation of our building, to make sure we’re handling and storing their goods as specified.”

Another practice for companies that ship via common carrier is to vet the firms that will transport hazardous chemicals.

“About 10,000 truck suppliers are out there,” observes Riggs. “How do you screen that huge supplier base and create a list of carriers you can rely on to deliver your chemicals across the public domain?”

If a carrier doesn’t give satisfactory answers, doesn’t have adequate insurance, or just isn’t making the right effort, Brown won’t use that company. Brown’s employees also check carriers’ safety records on federal websites.

Many safety procedures are designed to keep hazardous chemicals from spilling or leaking—events that cause enough disruption and trouble to leave a strong impression on everyone involved. PCWC is extremely focused on safety and preventive measures. “That’s a core reason why we continue to grow our business in the safety-conscious world of chemical storage, handling,

information to our carriers quickly, and get updates from carriers as events happen, is a best practice,” says Mike Challman, vice president of North American operations at CLX Logistics in Blue Bell, Pa. “If the right information doesn’t get to the right person at the right time, that can cause big issues.”

Shippers and 3PLs use TMS solutions to manage many commodities. But tracking a chemicals shipment requires some additional data. “We track items such as product characteristics and what other products it can or can’t come in contact with,” Challman says. “We also make sure we know the regulatory requirements, including those for placarding.”

Procedures for Plastics

Even chemicals that don’t pose safety hazards require special procedures and careful handling. Consider plastic resin—a commodity well known to Houston-based A&R Logistics. Most of A&R’s business involves dry bulk transportation, warehousing, packaging, and 3PL services for large companies that make plastic resins used in manufacturing.

In its transportation business, A&R primarily provides last-mile services. It transfers bulk loads of resins—which come in the form of pellets—from rail cars to its own tank trailers, and then moves them to consignees’ manufacturing plants.

The big concern with resin is the risk of contamination. “All it takes to contaminate a load is a few pellets from a previous load that are a different color or a different type of chemistry,” notes Mark Holden, A&R’s chief executive officer. “We have to be very disciplined in our material handling and trailer cleaning.”

A&R also must be cautious in its use of vacuum systems to load and unload dry bulk trailers. “We make



A division of CLX Logistics, ChemLogix’s intermodal service specializes in using bulk ISO intermodal tank containers to ship bulk liquid chemicals long distances.

One best practice is to conduct regular carrier surveys. “We send carriers a form that asks questions about how they train their people. Do they keep records? Do they do background checks? How about security—what kind of training do they offer, and how often are drivers trained?” says Douglas Brown, president of Brown Chemical Company in Oakland, N.J., and vice chairman of the NACD.

and distribution,” Burks says.

Besides giving employees safety training, and implementing meticulous procedures, chemical shippers and their partners use information technology to make sure chemicals flow smoothly and safely through the supply chain.

“Having a good transportation management system (TMS) that allows us to receive rich information from our customers, provide the best

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sure all the hoses are sealed tight,” Holden says. Drivers who operate those systems must monitor the

pressure to make sure the pellets don’t flow too fast. “If they’re under too much pressure, the pellets will

generate enough friction to make them melt,” he adds.

In addition, operators work hard to avoid spills, even though spilled resin would create no environmental impact. “Our customers treat the inventory almost as if it were hazardous,” says Holden. “So A&R treats it that way, too. It’s a quality of service issue.”

Delivering Safety and Security

Maersk Line Limited offers flexible and clean petroleum product and chemical transportation for oil majors, oil traders, and the U.S. government. To learn more about chemical shipments that move over the ocean, *IL* posed a few questions to Desmond Sherry, Maersk Line’s key client director of chemicals.

What are the biggest challenges chemical shippers face today?

As chemical companies grow their global businesses, a higher degree of supply chain complexity comes with that expansion. Manufacturer customers in locations throughout the world rely on timely chemical deliveries to keep production lines up and running. Maersk Line understands this and focuses on providing chemical shippers with reliable transportation solutions. In fact, we are consistently rated number one in terms of Global Schedule Reliability, per Sealintel.

Being a reliable carrier means more than just vessel schedule adherence. We hear from chemical customers that safety and security are paramount, as is the ability to effectively respond to major market challenges. Maersk Line has the people, processes, and safeguards in place that provide confidence and trust. As an example, when severe winter weather crippled supply chains in 2014, or when U.S. West Coast labor shortages impacted cargo flows, our Business Continuity Planning team was prepared to address the challenges, communicate their impact, and support our customers in every way possible.

What advice/suggestions would you give *Inbound Logistics* readers who are managing chemicals shipments?

There’s a lot of talk today about the commoditization of container shipping and a focus on cost alone. We know that shippers want more and should ask their carriers to partner with them to help drive their success. A knowledgeable, dedicated carrier partner can make all the difference to a chemical shipper’s supply chain. A stable, strong carrier will address exceptions quickly, provide solutions, and contribute to the shippers’ bottom-line results.

As a chemicals transporter, what is Maersk doing to minimize the environmental footprint of its operations?

We constantly seek innovative and commercially viable ways to reduce our environmental impact, be it CO₂ and other air emissions, ballast water, or the materials we use to build our vessels.

We’ve reduced our relative emissions by 40 percent, and are on average more than 10 percent ahead of the rest of the industry, according to global benchmarks. We have now set a bold new target to reduce CO₂ emissions per container moved by 60 percent by 2020, compared to 2007 levels. When we reach our target in 2020, we will have saved the climate approximately 200 million tons of CO₂. This is the same as annual greenhouse gas emissions from more than 35 million passenger vehicles.

When transporting chemicals, safety is always a concern. What kinds of safety programs does Maersk have in place?

In 2014, Maersk Line was one of seven companies that launched the Container Ship Safety Forum (CSSF) to improve safety performance and management practices in the container shipping industry. The aim of this group is to collectively identify common safety hotspots across the industry, and to find ways to address underlying causes.

Over time, the CSSF is expected to become a platform to discuss and benchmark against one common safety standard and to provide shippers peace of mind that their cargo is in good hands.

Complex Compliance

The sheer number of government agencies that regulate chemicals turns compliance into an especially demanding job.

“We have to directly interface with nine federal agencies just to



Weber Logistics operates a chemical warehouse in southern California with 13 different storage rooms to meet temperature range, fire prevention, and security requirements.

open the doors every day,” says Brown. “Along with OSHA, the DOT, and the EPA, those agencies include the Food and Drug Administration (FDA), U.S. Customs and Border Protection, the Drug Enforcement Agency (DEA), the Transportation Safety Administration (TSA), and the FBI,” he says. State agencies regulate chemicals, too.

The rules require not only special procedures, but also a great deal of paperwork. For example, companies that store and transport certain “chemicals of interest”—mostly substances that can be used to make illegal drugs—must file periodic



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reports with federal agencies. “We submit monthly reports to the Department of Justice and DEA, and annual and quarterly reports to Homeland Security,” says Rantz.

Weber’s reports on chemicals of interest include data such as quantities on hand, and quantities shipped in and out of the facility. The agencies match that data to reports filed by Weber’s customers, to make sure no chemicals have gone astray in transit.

At Barton Solvents in Des Moines, Iowa, David Richards, vice president, regulatory compliance, oversees a staff of four people dedicated to fulfilling all regulatory requirements. “But even with a staff that size, it’s difficult to do. Many companies are a lot smaller than ours, and I don’t know how they do it,” says Richards, who chairs NACD’s regulatory committee.

When states create regulations that exceed federal requirements, it poses an even bigger challenge. For instance, California has tougher requirements for managing chemicals than most states. Industry players are trying hard to convince government leaders that it’s not practical to observe a different set of standards for each state. “How would we go about our business if we had to do it differently in Pennsylvania, Connecticut, New York, and New Jersey every day?” Brown asks.

Wanted: More Space

Chemical shippers might face an abundance of regulations, but in another realm, many struggle with continual scarcity. Tight capacity, exacerbated by the ongoing driver shortage, is an issue for all kinds of shippers. But some say the problem is especially tough for companies that move chemicals.

Working for a 3PL that serves the energy market, as well as the chemical industry, Voelkel gets a firsthand look at the capacity situation for different commodities. “It’s

definitely harder to find trucks for the chemical loads,” he says.

In part, that’s because the chemical business often involves regional trips, and many drivers these days find those long-distance hauls unattractive. “Most professional drivers want to get home every night,” Voelkel says.

“Capacity is also tight because bulk chemicals require specific kinds of tanker trucks,” says Richards. “Finding those pieces of equipment is getting tough.”

For bulk deliveries to customers, Brenntag operates a private fleet with 750 tractors and 1,500 tanker trailers. “Some of those trucks are specialized,” says Garner. “A company might need a lined tanker or a different setup involving valves.” In all, the fleet encompasses about 40 different types of equipment. Each of Brenntag’s drivers is qualified to handle six to 10 of those varieties, but no one driver can handle them all.

The need for specialized training reduces the pool of drivers in a market that’s already constrained.

Barton Solvents also operates its own trucking fleet. But for chemical

shippers that rely on common carriers, things can get tough. “Shippers must allow for longer lead times as they work to secure the necessary equipment,” Richards says.

To compound the problem, suppliers are also extending lead times, and putting tighter controls on how and when distributors can pick up their products. “It’s a logistics nightmare trying to get all the shipments scheduled in a timely fashion,” Richards notes.

License to Carry

One transportation capacity challenge facing PCWC stems from a recent rule change at the Federal Motor Carrier Safety Administration (FMCSA). It concerns intermediate bulk containers (IBCs), which are cube-shaped totes made to transport liquids. These usually hold 275 or 330 gallons. Carriers transport IBCs by loading multiple units on dry van trailers.

“The FMCSA now says that if you carry totes, you have to have a tanker license,” Burks says. That adds complexity to the transportation supply chain, as carriers will either obtain



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those additional, more stringent licenses or forego the business.

"A number of our good, reliable less-than-truckload (LTL) partners currently won't take loads that they might have taken in the past because of the need for tanker endorsement," says Challman. That has compelled the company's ChemLogix division to seek out new carriers.

"Some companies that are willing to handle these loads see it as an opportunity to increase revenue and market share," explains Challman. But carriers can't seize those opportunities unless they find enough drivers with the necessary

endorsement on their licenses.

In some cases, CLX and its shippers avoid the need for a tanker endorsement through new shipping strategies. "Depending on where the shipment is going, and on our customer's requirements, we might be able to replace a large shipment of totes with a tank," says Challman. In other cases, the shipper might divide a shipment of totes into two or more, so none of them contains enough volume to trigger the endorsement requirement.

Because carriers are so overbooked, Brown Chemical Company is constantly looking for new ones.

One tactic Brown uses is to scout out the carriers that its suppliers use to deliver product. "If it looks like they have their act together the right way, and they want to pull the lanes we're looking for, we'll give them a go and see how it works out," says Brown.

Tight capacity is prompting some shippers and 3PLs to change the way they do business. "When capacity was plentiful, you could throw your 10 loads in the air, and you would have 15 carriers vying for them," Voelkel explains. Today, some shippers have better success when they contract for dedicated capacity.

More shippers are also willing

Low-Cost Energy Complicates Chemical Logistics

The transportation capacity shortage hits the chemical industry especially hard, in part because of the connection between energy and chemical production. The boom in hydraulic fracturing (or "fracking") has produced an abundant supply of cheap oil and natural gas in the United States. Those energy commodities provide ingredients for a great deal of chemical production.

"Recent events have given a competitive advantage to the United States, to the point where, by 2017, the country is expected to become a net exporter of chemicals," says Nathan Buelt, manager of the ChemSolutions division at 3PL C.H. Robinson in Eden Prairie, Minn.

"The amount of investment going into North America for the chemical industry is massive," says Glenn Riggs, senior vice president, corporate strategy at Odyssey Logistics and Technology (OLT) in Danbury, Conn. "This used to be one of the higher-cost areas in the world for chemical production. As of 2013, it moved to second-lowest, next to the Middle East."

As more U.S., Canadian, and overseas companies build chemical plants in North America, those plants will be pumping out product in greater volumes. "We have to make sure all the transport and logistics networks can handle that," Riggs says. "But we're dealing with a driver shortage and tightening regulations, so we are fighting an uphill battle."

A&R Logistics, a Louisville-based company that focuses on dry bulk freight, has been ramping up capacity to accommodate an anticipated 40-percent increase in the production of resin and other chemicals. A&R currently operates 10 warehouse and packaging facilities and 23 terminals. Its fleet includes more than 700 tractors and 1,200 trailers.

"We recently opened three new facilities, in new geographic markets. We now have approximately two million square feet of warehouse/distribution capacity around the country, and we are

looking to add more," says A&R CEO Mark Holden. The company has increased its warehousing and packaging capacity by 40 percent since Holden and other investors purchased A&R in 2012.

The company has added more rail car storage and expects to establish more locations for transloading resin from rail cars to trucks. "We're also looking to partner with some of the railroads to co-locate or to collaborate for transload facilities," Holden says. "And we're talking with our customers to find out where they want to locate facilities for export."

"The interplay between the chemical and energy industries illustrates one of the things that makes chemical logistics special—its need to continually respond to fluctuations in the world economy," says Buelt.

"There's such a wide number of inputs into the chemical supply chain," Buelt adds, referring to the many ingredients used to make chemicals. And, of course, chemicals themselves are crucial ingredients for many industries. "While macroeconomic trends influenced each industry that I've dealt with previous to the chemical vertical in their own way, I've seen large trends impact the chemical vertical in significant ways," he says.

Although chemical production in the United States in 2015 is higher than in 2014, the growth month-to-month seems to be leveling off, Buelt says. At the same time, a pullback in oil and gas drilling has freed up some bulk capacity for chemical shippers. So now, rather than simply helping clients find enough trucks and rail cars to transport their products, C.H. Robinson is helping them choose the right carriers to support their performance goals.

"If a chemical manufacturer has visibility and the analytics, they can see trends developing and firm up their supply chain, making sure the right carrier is getting the right shipment at the right time, save on costs, and drive a competitive advantage," Buelt says.

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to pay for round-trip moves, even if they include empty miles. When the truck returns, the shipper can send it right out again with a new load, instead of searching for another truck.

“Shippers might be able to load the same or compatible product again, so they can forego the tank wash charge,” Voelkel says. “It doesn’t work for a 2,000- or 1,500-mile haul, but it might work for 1,000

are the payments correct? Is the paperwork accurate, and does the load not change after it has been tendered?” Challman says.

Such soft issues are important. “A carrier will agree to work with a shipper who pays a couple of pennies less if it does well in these other areas,” he adds.

Nathan Buelt, manager of the ChemSolutions division at 3PL C.H. Robinson in Eden Prairie,

on providing the best service to their most important customers. ChemSolutions—which focuses on the bulk liquid market—helped those customers analyze their existing processes, identify opportunities to improve, and take better advantage of technology to gain visibility into the supply chain.

“We helped some clients tweak where they locate warehouses, where they carry safety stock, and what their inventory levels are,” says Buelt.

Shifting Regulations

As if the volume and variety of regulations weren’t daunting enough, companies involved in chemical logistics must also deal with rules that keep changing. “Within the next few years, we’ll have to comply with more than 30 proposed changes from different regulatory organizations,” says Richards.

For example, OSHA plans to change its permissible exposure limits for chemicals. “If OSHA tightens up those numbers, we’ll have to review what our employees are possibly being exposed to,” Richards says. “We might have to change some policies or procedures, or provide some additional ventilation to get us down to the new levels.”

For companies that make or ship chemicals, probably the biggest regulatory change on the scene is OSHA’s new Hazard Communication Standard (HCS). In 2012, OSHA updated its requirements for communicating information on hazardous substances that employees encounter on the job. The aim was to make those rules comply with the Globally Harmonized System of Classifying and Labeling Chemicals (GHS), an international standard.

June 1, 2015, was the deadline for complying with most provisions of HCS 2012. One big change the rules created is a new set of standards for



Distributor Brenntag North America buys chemicals in bulk from manufacturers, then repackages them in smaller containers, and delivers to local customers via a private fleet.

or 800 miles, depending on the customer.”

Capacity isn’t equally tight in every region of the United States, but all the talk about shortages has pushed up freight rates everywhere, says Challman. For chemical shippers who can’t pay a premium, another strategy for capturing capacity is to become an attractive customer.

Rates are part of it, but they’re not the whole deal. “Other things to consider are: do you get the truck in and out without delay? Is the driver treated well at the facility? Are bills processed in a timely manner, and

Minn., has also seen chemical shippers adjust their strategies in response to the capacity crunch. “With the increased production in 2014, the infrastructure for liquid bulk—whether pipeline, rail, or tank truck—didn’t seem to be suitable to meet the production demand,” says Buelt. “A lot of our conversations with customers were about bringing additional capacity to the market, and helping them lock in long-term contracts.”

Shippers started thinking creatively about operating more efficiently with the available assets. They started putting more emphasis



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labeling containers that carry hazardous chemicals.

“The old hazard communication system was fairly broad,” says Scott Dunsmore, vice president of training and business development at training firm Lion Technology in Lafayette, N.J. “The employer had to label the containers, and include certain information on the label. But there was no standardized format.”

Under Hazcom 2012, containers must carry labels with specific pictograms to identify the class of hazard posed by the chemicals inside. For example, a skull and crossbones indicates a severely toxic substance; while an exploding bomb indicates an explosive substance, a self-reactive substance, or an organic peroxide.

Hazcom 2012 also revises the standards for safety data sheets (SDS), which provide detailed information about chemicals that companies buy.

Weber Logistics has seen the impact of these new regulations on the companies that use its chemical DC. Many customers have been busy updating their labels and sending the 3PL new SDSs. “Some of our customers have to put serious time and effort into what they need to relabel, what’s coming from

the manufacturer that has already been relabeled, and what is sitting in stock,” says Rantz.

Any product in the DC that still has old labels requires an update. “We have to relabel it for the customer or send it to a vendor to be relabeled,” he says.

The main impact of Hazcom 2012 falls on chemical manufacturers, who must provide the correct information, including SDSs and container labels, when they ship product to customers, Dunsmore says.

Lookalike Labels

One logistics challenge Hazcom 2012 presents involves the risk of mistaken identity: OSHA’s GHS labels look a lot like the labels the DOT requires when companies ship hazardous materials. The two agencies regulate many of the same substances, but their lists are not identical.

“In many cases, hazards require labels in the OSHA world that won’t work in the shipping world,” says Dunsmore. For example, OSHA regulates chemicals that cause temporary skin irritation, but the DOT concerns itself just with corrosives that cause permanent damage.

“That’s creating problems for

shippers in certain cases. If their carriers pick up packages and see new GHS labels with pictograms, but no hazmat labels, they might ask, ‘Why is this not prepared in accordance with the DOT?’” says Dunsmore.

Under regulations that the International Air Transport Association instituted in 2015, if a carrier receives a container displaying an OSHA GHS label, but no documentation related to the DOT’s hazmat rules, it must give that package special scrutiny. The investigation might cause a shipping delay, even though the shipper has committed no violation. “Those transportation regulations are now building in potential hurdles,” Dunsmore notes.

Manufacturers could also have trouble conforming to the new GHS regulations when they buy chemicals from other companies and blend them to make new products. To label their products and complete their SDSs correctly, they need accurate details about the ingredients. “Some manufacturers who make mixtures are not getting everything from their suppliers,” Dunsmore says. In February 2015, OSHA granted manufacturers an extension on the June 1 deadline if they



Partnering with safe carriers is critical for chemical shippers. The National Safety Council recently recognized Dupré Logistics with three awards for excellence in fleet safety.



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hadn't received all the information they needed on constituent chemicals, despite their best efforts. But that extension has limits. "As soon as you get the information, the clock starts on having to get the labels up," Dunsmore says.

Electronic Logs

Along with regulations specific to chemicals, companies in the chemical supply chain are also feeling the effects of new regulations in the broader logistics arena. Take, for example, the DOT's plan to require commercial truck drivers and fleets to use electronic devices to record drivers' hours of service. If released as expected in September 2015, this rule would go into effect in September 2017.

"Many large carriers have already installed onboard recorders. But the market relies a lot on middle- and small-sized carriers, too," says Riggs. Most of those companies have yet to implement the new technology, but under the new rules, they would have to.

Barton Solvents is currently working on complying with this new regulation. "We have a few units in, and we're testing them to see how they work and what they'll do for us," says Richards. "But that will cost about \$1,000 per truck just to install, then \$30 to \$50 each month to the company we would use to run the program." His company also would need to train all its drivers to use the system.

As rules continually evolve, one way to keep pace is to join an industry organization that closely follows and reports on the regulatory agencies. Richards, for example, receives NACD's biweekly news brief. "I read it faithfully," he says. "It provides information about changes that are coming or are under consideration."

Although safety concerns, stringent regulations, and the struggle for capacity make chemical logistics

Expert Advice

With three decades of experience providing chemical management solutions, the experts at Rinchem Company, Inc., based in Albuquerque, New Mexico, address some hot topics.

What role does technology play in assisting small businesses that want to get involved in global opportunities in the chemical sector?

Technology can be a differentiator for smaller chemical logistics providers, especially when they are able to customize that technology to meet the specific needs of a particular vertical or niche. Larger 3PLs tend to target multiple markets, whereas smaller 3PLs can choose to leverage technology to focus on the specific needs of a particular market segment and, in many cases, do it better and more responsively than large 3PLs.

— Rob Walker, Vice President of Finance and Analytics

How can logistics partners help open new markets, particularly if a company has few assets on the ground?

Chemical manufacturers can utilize a third-party logistics provider to open up a new geography without many of the startup costs traditionally incurred during such a process. In many cases, 3PLs already have infrastructure, equipment, manpower, and systems in place to manage the chemical distribution network.

Utilizing a third-party logistics provider not only reduces cost, but it also increases the speed of time to market, which can be critical to the success of opening a new geography when opportunities arise.

— John Fitzsimons, Vice President of Operations

Recent Federal Motor Carrier Safety Administration regulations require drivers to have a chemical endorsement, thereby limiting capacity by shrinking the current driver pool. What can companies do to offset that?

Encouraging driver education is very important. Transportation providers that truly value top-quality drivers, and are willing to pay for drivers who maintain those endorsements, will have the pool they need. Aiding drivers without such endorsements to take steps to obtain them is extremely important.

Making sure that drivers with such endorsements don't lose them is also critical. Transportation providers with robust, recurring training programs, performance tracking, and safety audits will keep drivers with hazmat or other endorsements from losing them. For their efforts, those companies will ultimately have fewer out-of-service drivers.

A final critical component that can help offset a shrinking driver pool because of increased driver regulation is for transportation providers to reduce attrition. They can do this by providing both financial and non-financial incentives for drivers to stay, as well as implementing recognition and reward programs that recognize driver accomplishment and keep employee satisfaction levels high.

— Adam Moore, Transportation Program Manager

Given the complexity of fast-changing regulations governing the chemical value chain, how can companies mitigate compliance risks?

The compliance landscape for chemical storage and transport is constantly evolving. Companies must have good governance practices, and proper risk mitigation policies and strategies in place that keep pace with new legislation. Companies can also reduce potential risks by selecting a third-party logistics partner that specializes in the storage, transport and handling of chemicals.

— Michael Ziembowicz, Quality, ESH Manager

a particularly complex discipline, shippers are rising to the challenge. In a thriving market, shippers

will continue to optimize networks, improve processes, and keep chemical products flowing. **CL**

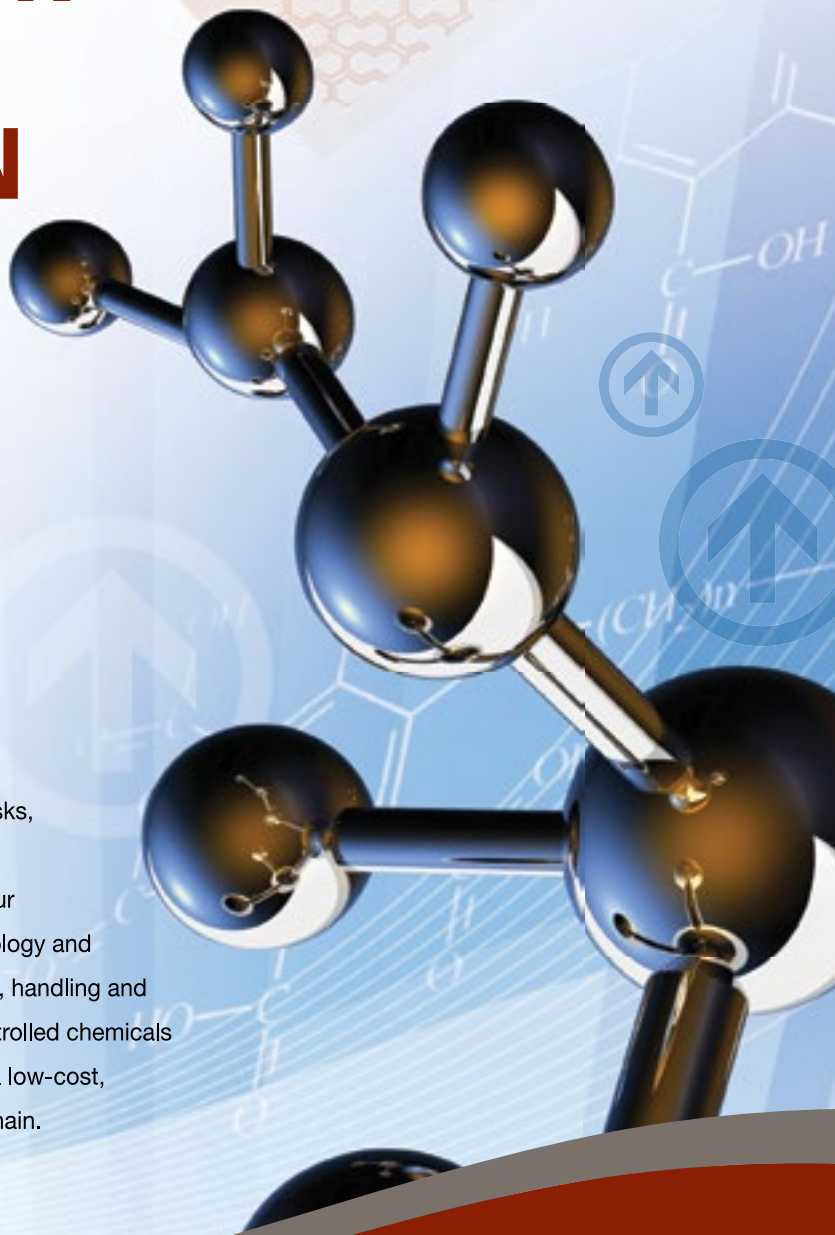


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