
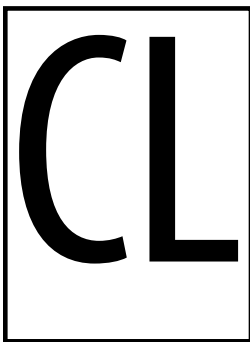


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Chemical Logistics: Formula for Success

As the chemical industry continues to grow, shippers and their service partners work hard to keep product moving, trouble-free.

Take the 859 million tons of chemicals that U.S. companies shipped in 2014, load that volume onto rail cars, and you'd fill enough cars to circle the globe three times, says the American Chemistry Council (ACC). The \$801-billion U.S. chemical industry represents 15 percent of the world's chemical production, according to the industry organization. And the chemical business is set to expand in the next few years.

U.S. chemical production will grow by 2.9 percent in 2016 and 4.4 percent in 2017, predicts the ACC in its report, *Year-End 2015 Chemical Industry Situation and Outlook*. That rise corresponds with an increase in manufacturing capacity: Since 2010, companies have announced more than 261 new chemical production

projects worth a total of \$158 billion, reports the ACC.

An industry of such magnitude makes a major impact on logistics.

Logistics services for chemical companies will grow by five to six percent by 2019, according to a 2015 report by London-based Technavio Research. "We expect this market to reach between \$450 billion and \$500 billion by 2019," says Sharan Raj, lead analyst with Technavio's transportation and logistics team. That's up from an estimated \$350 billion in 2014.

Of that total, North America's share is \$50 billion to \$70 billion and is set to grow by 3 percent, Raj says.

Chemical producers increasingly outsource logistics functions to third-party logistics (3PL) providers. They make that choice, in part, because

they want to leave logistics functions to companies with the expertise and infrastructure.

"Chemicals are a complex supply chain," Raj observes. "Each region, state, and country has different rules and regulations regarding chemical goods transport." Outsourcing is the best way to gain efficiencies.

Logistics outsourcing is on the rise, agrees Christopher Wright, vice president, sales and marketing at Rinchem Company, a global, asset-based chemical 3PL with headquarters in Albuquerque. "Large chemical manufacturers are merging or purchasing other large chemical firms," he says. "As a result, many firms are acquiring businesses with highly regulated, complex chemical supply chains."

After consolidation, a chemical company might find itself shipping and storing products that it has never handled before. It would take years to develop the in-house logistics expertise those products require, "so it ends up outsourcing to an experienced partner," Wright says.

As they form relationships with 3PLs, chemical shippers bargain hard on price. "There is a sustained pressure from the customer to keep



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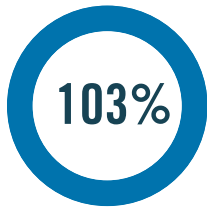
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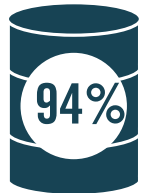


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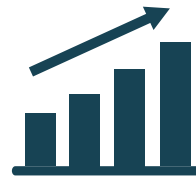
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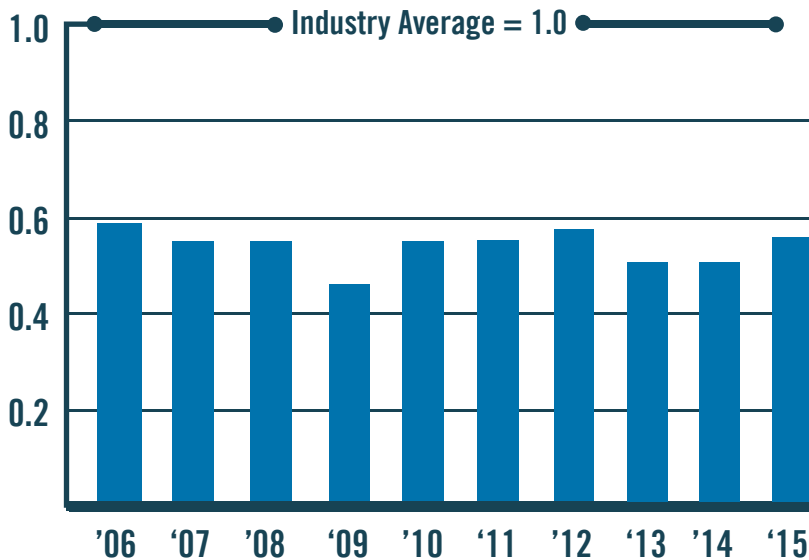


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prices low,” Raj says. “And shippers demand value-added services at no additional cost.”

Handling Hazmat

Companies that produce, distribute, and transport chemicals deal with many of the same logistics concerns — transportation capacity, government regulation, safety — that affect their colleagues in other industries. But for chemical firms, those issues have their own special flavor.

Among them, safety concerns are paramount. “The majority of our

freight is hazardous,” notes John Adams, director of logistics and business analytics at Hydrite Chemical Company. Based in Brookfield, Wis., Hydrite started life as a chemical distributor, but over the past decade it has added manufacturing facilities in the Midwest and California. Using both a private fleet and common carriers, Hydrite ships products to customers in industrial production; agriculture; biofuels; food processing; graphic arts; oil and gas; paints, coatings, inks, and adhesives; and pulp and paper.

A business that deals in

hazardous materials (hazmat) can’t take transportation lightly. “We have to vet our carriers a little more,” Adams says. “There aren’t a lot of ‘call and haul’ situations; there are a lot of long-term relationships.”

Hydrite has developed an audit process to monitor whether its transportation partners uphold the necessary safety standards. “A compliance manager in our facility works with carriers to make sure they’re up to date on their hazmat and other requirements, along with insurance,” Adams says.

“To keep the world safe and

A&R Takes Resin-able Measures

Some of the best-known chemical logistics challenges apply to hazardous liquids—but chemicals take other forms as well. A&R Logistics in Louisville, Ky., specializes in the transportation of plastic resin, a dry bulk material used to make all sorts of familiar products, from water bottles to recycling bins.

As a carrier, A&R operates approximately 800 trucks and 1,200 trailers to move loads of resin pellets to manufacturing plants. As a 3PL, A&R combines its own transportation capacity with services from other carriers. “We also have a large network of rail sidings and transloading facilities,” says Mark Holden, A&R’s CEO. In addition, the company operates about 2 million square feet of warehousing and packaging space throughout the United States.

While not hazardous, plastic resin still requires careful handling, especially when being transferred among rail cars, truck trailers, and storage siloes. “The pressure has to be managed closely so we don’t get too much friction in the transfer, or else the resin pellets will begin to melt,” Holden says. “We also have to guard against contamination. The slightest speck of dirt or foreign material can contaminate the whole load.”

The first line of defense against impurities is to make sure all hoses used to load and unload are attached correctly and all seals are secured. “In addition, between loads, we do what we call a full conversion wash, from head to toe, to make sure the trailer is absolutely clean and odor-free,” Holden adds. Washing also



A&R Logistics specializes in transporting plastic resin, which is used to make products such as water bottles and recycling bins.

prevents cross-contact between different, incompatible resins.

Unlike their dry van trucking colleagues, drivers who handle dry bulk chemicals are responsible for loading and unloading their product. That process takes as long as two hours on either end of the trip. In 2017, when all trucking companies in the United States must start using electronic logging devices (ELDs), that requirement will have a special impact on companies such as A&R because the automatic record will need to account for loading and unloading time, as well as time on the road.

A&R has been using ELDs since 2013. “That has had quite an impact on our capacity,” Holden says. “But it’s in the interest of safety.”

One special issue emerging in dry bulk chemicals arises from a recent, ongoing expansion in U.S. production. “With

all this new capacity coming on line over the next five to 10 years, where will all this product go?” Holden asks. “It’s still a great mystery, even to many of our customers.”

Much of the new demand will come from overseas markets, but shippers aren’t sure which regions of the world will buy the most product—and, therefore, which marine ports will play key roles in their logistics strategies. “Our customers are trying to develop flexibility in their supply chains, to accommodate changes in end market demand, quickly and efficiently,” Holden says.

A&R is lining up resources to help those customers get their product to market, wherever those markets turn out to be.

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protect the environment, governments have developed strict laws and regulations related to the transport, handling, storage, and segregation of dangerous goods," says Wright. "Rinchem views these regulations as a necessary part of global logistics, and we take pride in compliance."

Exceeding Expectations

Regulations pertaining to chemical safety can vary from country to country, and sometimes even from community to community. For example, local fire departments might interpret applicable laws differently. Rinchem meets these challenges by often exceeding expectations. "We

adopt a high global standard, and apply it everywhere," Wright says.

Countries in the Asia Pacific region have tightened and refined their regulations for handling chemicals over the past 18 months, following accidents in Tianjin China, Singapore, and South Korea.

"At the end of 2015, China sent a delegation to meet with Rinchem's executive team and benchmark industry best practices," says Wright. Regulations are bound to evolve even further in that region. "When accidents of a significant scale occur, legislation is sure to follow," he adds.

Whatever the regulations require, Rinchem wants to develop the safest

supply chains in the world. "Any workplace injury or accident is unacceptable," Wright says. Rinchem meets the challenge through training and developing a culture focused on safety, he adds.

Rinchem specializes in handling high-purity, prepackaged chemicals and gases for the semiconductor and electronics, specialty chemical, specialty gas, life sciences, paints and coatings, and personal care industries. It manages many supply chains that contain dangerous goods requiring careful climate control.

On top of safety, chemical shippers and their service partners must also consider the integrity of the

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Tim Allen, vice president liquid sales, and Jerry Torok, senior director, safety and regulatory compliance with ACBL, recently sat down with *Inbound Logistics* to discuss the unique challenges of transporting chemical logistics.

Q: What services does ACBL provide to customers in the chemical industry?

TA: ACBL's highly trained tankermen and ship supervisors work in conjunction to safely load and unload various liquid cargoes to and from customers' ships. This process, called ship lightering, saves time and money by reducing the number of ports of call for vessels.

ACBL's shoreside tankermen can load/unload barges carrying most Subchapter D and O cargoes, including liquefied gas. Upon request, ACBL can provide tank barges that can be loaded in tandem, as well as the tankermen who have experience in this type of loading. In addition to the tankermen's load and unload duties, they can also perform minor repairs to barges.



Tim Allen

The company's liquids customers include most major oil and chemical companies located in the United States.

Q: How is the practice of chemical logistics different than the logistics of other products?

JT: The biggest difference is that shippers of liquid cargoes take into consideration the marine environment and understand the consequences of any spill to the water. Therefore, shippers of liquid cargoes are sensitive to the safety statistics of any liquid carrier.

Q: Are there advantages to transporting chemicals via barges? What about safety considerations?

JT: ACBL is committed to developing and implementing new technology and products that increase the safety, efficiency, and reliability of our equipment and reduce the risk of spills and injuries. Barges are the safest, most cost effective and environmentally friendly way to transport liquid cargoes.

ACBL's tank barges are equipped with the latest engineering innovations, which significantly reduce the risk of spills and increase the efficiency of cargo transfers. Innovations include alarms that alert of mechanical seal failures in pumps; solar-powered alarms that provide overfill protection without power from a shore connection; spring starter systems to replace hydraulic systems on pump engines; and spill pans containing potential cargo leaks from valve packing. In addition, a one-inch increase in cargo pump size on 10k barrel tank barges has resulted in a 25 percent increase in load/unload efficiency.



Jerry Torok

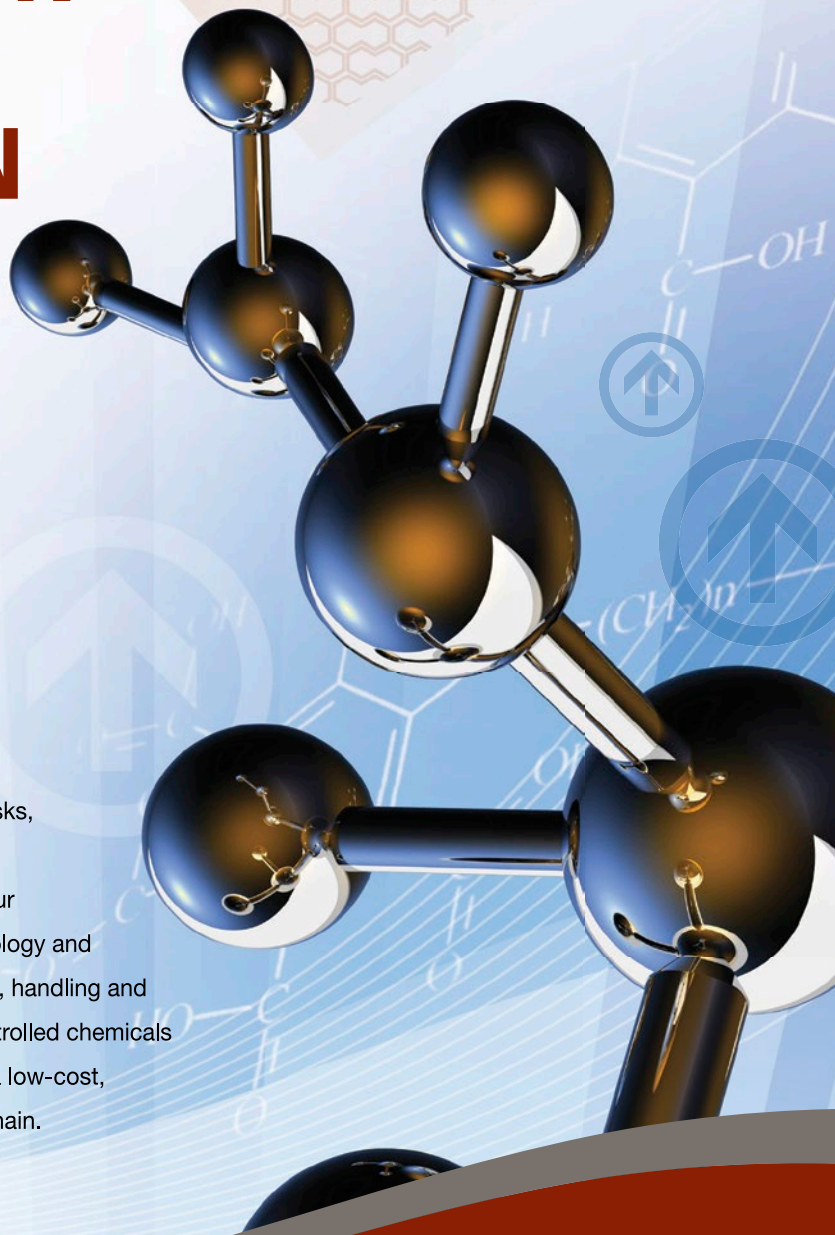


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chemicals. “Humidity and temperature control affect yield and shelf life,” Wright says.

Measures to prevent accidents and protect chemical products include employee training, facility design, equipment choice, and technology deployment.

“Rinchem’s warehouses and transportation fleet are temperature- and climate-controlled, and real-time monitoring allows us, the manufacturer, and the end user to ensure that all materials remain within specifications at all times,” says John Fitzsimons, the 3PL’s vice president, operations.

“Rinchem’s new facilities are designed so that the building acts as its own containment in the event of a spill, and nothing is released into the environment,” he notes. Forklifts, lighting, and other equipment in company facilities are “intrinsically safe”—designed not to emit energy that could ignite volatile chemicals.

Safety First

Safety is also a primary concern at C.H. Robinson, which handles bulk chemicals, plus other liquid bulk commodities, through its ChemSolutions business.

Safety was paramount from the time ChemSolutions became a distinct business unit. “We understood that we needed to focus on safety above and beyond what we do for other verticals,” says Nathan Buelt, general manager of ChemSolutions and coordinator of its Responsible Care programs.

While safety is important in all logistics operations, “there’s a difference between loading chemicals onto a truck or into a tank, or loading cardboard boxes,” Buelt notes.

Because safety is so critical, many carriers, 3PLs, and shippers that work with chemicals participate in Responsible Care, a program developed by the ACC, whose



CLX Logistics’ cost-effective BulkTainer Service uses a combination of truck and rail to deliver shipments via ISO tank.

Security Moves to the Front

The practice of logistics in the chemical industry is different from logistics involving other kinds of products because of the special emphasis on safety, security, and regulatory compliance. Naturally, security has gained greater focus in the years since the Sept. 11, 2001, terrorist attacks.


Many chemical manufacturers used to call their safety departments “HSE”—for Health, Safety, and Environment. “But many of them have changed the names of those departments to ‘HSES,’ with the second ‘S’ standing for Security,” says Glenn Riggs, senior vice president, corporate logistics operations and strategy at Odyssey Logistics & Technology in Danbury, Conn.

Although Odyssey serves a broad range of customers, it started in the chemical industry and offers several services aimed particularly at chemical shippers. They include long-haul intermodal service using ISO tank containers, a tank truck-specific 3PL service called Odyssey Overland, and a fulfillment service for manufacturers that need to send chemical samples to their customers. Chemical companies also use Odyssey’s general-purpose logistics and technology services.

Chemical plants have added new layers of protection, including more fencing and security cameras, Riggs says. Plants and refineries, as well as ports that handle chemicals, have also beefed up their access control procedures, requiring drivers to carry a Transportation Worker Identification Credential (TWIC) card. A hazmat endorsement on a commercial driver’s license—which requires a background check—is no longer enough to allay security concerns. “They won’t be able to get into some of these facilities unless they have this additional credential,” Riggs says.

Under current hazmat regulation, chemical companies must collaborate on security planning with logistics providers and other supply chain partners. Those plans have forced carriers to change some of their day-to-day practices. For example, a driver may no longer park a tank truck in the spacious lot outside a big box store, then walk down the street to grab a burger from a fast food restaurant. “Today, those tanks are never left anywhere,” Riggs says.

As a member of the American Chemistry Council’s Responsible Care program, one of Odyssey’s further mandates is to protect the data it collects about customers who ship hazardous materials. “We have a lot of data security protocols in place,” Riggs says. “No one can get into our records and see where the shipping patterns are, and then take action based on that information.”



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guidance includes the Responsible Care Management System, the Security Code, the Process Safety Code, and the Product Safety Code.

The Product Safety Code is of special interest to logistics professionals because it focuses on sharing information with partners all along the supply chain, says Debra Phillips, the ACC's vice president of Responsible Care.

For example, Element 9 of the 11-section code addresses communications, cooperation, and outreach. "It covers customers, contract manufacturers, carriers, distributors, and 3PLs cooperating to share and manage information about the health, safety, security, and environmental performance of chemical products," Phillips says.

Working with Customers

Many chemical manufacturers qualify their carriers, distributors, and customers based on their ability to manage chemical products safely. Sometimes, a manufacturer learns through an audit that a customer lacks adequate systems for managing a particular hazmat product.

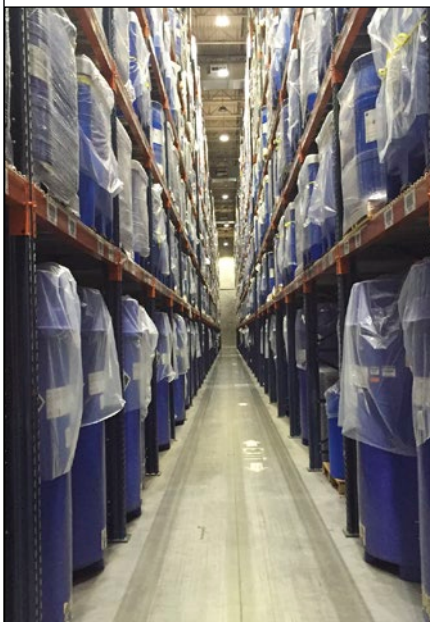
"Most companies will try to train the customer and provide additional support," Phillips says. "But if the customer still doesn't manage that product properly, they'll discontinue business."

The ACC started implementing the Product Safety Code in 2014, when members were required to put the first three elements in place. Elements 4-7 went into effect in 2015, and by the end of 2016, ACC members must attest that they have implemented the entire list. Periodically, a chemical firm must bring in a third-party auditor to confirm that it abides by the terms of the Product Safety Code, along with the other elements of Responsible Care.

ChemSolutions maintains Responsible Care certification and also goes above and beyond those

principles to guarantee safety, Buelt says. For example, it has built controls into its transportation management system (TMS) to ensure that employees don't work with certain shipments unless they've had the proper training.

Some C.H. Robinson employees take training called HSSE (Health, Safety, Security, and Environment) awareness, and then take an assessment to show they've absorbed the information. "A completed assessment links directly to our TMS to flag the employee as having accurate



Rinchem safely operates a network of temperature-controlled, hazardous materials-compliant warehouses.

knowledge of shipments associated with Responsible Care," Buelt says.

Certain ChemSolutions employees also go through a Certified Users program. Graduates know how to communicate correctly with clients and carriers about chemical shipments, and how to spot discrepancies that might cause safety problems.

Trained employees also know which chemical commodities ChemSolutions will or won't accept, based on the risk they pose. "We

have excluded some commodities from our transportation offerings," Buelt says. "We make sure employees know whether we can or cannot ship a particular product, and that the carriers they want to contract have the authority to ship that product."

Another organization in the chemical industry that has developed safety standards is the National Association of Chemical Distributors (NACD). Members of NACD must take part in its Responsible Distribution program, which outlines a mandatory set of safety measures.

The NACD and the ACC have shared codes and practices to make sure that their safety programs mirror one another closely. "It benefits the entire supply chain if their requirements line up with ours," says the ACC's Phillips.

Training for Safety and Security

Adhering to the industry's health, safety, and environmental standards is important, but it isn't easy, says Jeff Martin, president of HORN, a specialty chemicals distributor in La Mirada, Calif.

"We have a full-time regulatory person who handles health and safety issues, and the paperwork documenting our steps in those areas," Martin says. "It's expensive, and hazmat training takes people away from their jobs. But it would be irresponsible not to do this."

HORN distributes chemicals to end users through three divisions: Industrial, Human Nutrition, and Specialties; it also does some manufacturing. It operates 12 warehouses and distribution centers, with a manufacturing plant in La Mirada and another opening in Dallas.

Much of the safety program at EMCO Chemical Distributors in Pleasant Prairie, Wis., focuses on drivers who operate the company's private fleet. "They learn how to handle chemicals and emergency



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response,” says President and CEO Edward Polen. “They learn what to do if there’s a drum leak in a truck, and how to load and unload bulk trucks.”

EMCO distributes industrial and specialty chemicals for customers that make products such as paints, personal care items, printing inks, adhesives, and household cleaners. It also blends and packages products for customers. Its fleet includes 30 power units, 25 bulk tank trailers, and about 50 box trailers. EMCO supplements that capacity with common carriers as needed.

The safety program includes collaboration with public safety agencies. “We conduct joint training with the local fire departments near our facilities,” Polen says. “But you never know where a hazmat incident might occur.”

If EMCO doesn’t already have a relationship with first responders on site, the bonds tend to form

quickly. “They’re looking for as much help as they can get, just as our team is always looking for as much help as we can get,” Polen adds.

EMCO provides assistance that includes the services of an in-house hazmat team, which rushes to the scene of any accident to alleviate problems related to the chemical load.

Sense of Security

Besides averting potential hazards in the everyday transport, storage, and use of chemicals, companies engaged in chemical logistics are concerned about keeping dangerous products out of the wrong hands. In the United States, for instance, companies must comply with requirements in the 2014 Protecting and Securing Chemical Facilities from Terrorist Attacks Act.

At EMCO, much of the responsibility for security rests on the trained employees who drive the

company’s private fleet. “They’re at the truck when the delivery is being made, and at the emergency shutoff switch in case something goes wrong on a bulk load,” Polen says. “When they deliver drums, they park at the dock. They go inside, unload the drums with the receiving people, get back in their trucks and leave. They have to have a view of their vehicles at all times.”

Hydrite ensures security by forging long-term relationships with carriers that have proper measures in place, and enforcing common-sense measures of its own. “When the truck leaves the facility, we make sure it has a proper seal, so it can’t be tampered with,” Adams says.

Competing for Space

After safety and security, another pressing issue for chemical shippers is capacity. Truck drivers who transport hazardous chemical freight

Chemicals and the ‘Amazon Experience’

Apart from safety concerns, one of the big logistical differences between chemicals and other products is that chemicals have much more complex handling requirements. For example, a chemical might require careful temperature control.

“In winter, if a chemical gets to its destination after moving through the cold part of the country, it has to go to a separate location to be steamed for as long as one day to bring the temperature up so it can be offloaded,” explains Mike Challman, vice president, North American operations at CLX Logistics.

Based in Blue Bell, Pa., CLX serves chemical manufacturers with a broad range of domestic and international 3PL services, and with financial services such as freight bill audit and payment. It also provides technology, such as transportation management and rail management solutions and tools for network design and transportation procurement.

The complexity of chemical logistics adds a special twist to one challenge facing everyone who sells tangible goods today, Challman says—the “Amazon experience.” E-commerce vendors have raised consumer expectations for fast delivery and sophisticated shipment tracking. “People bring that thought process to work,” he says. These days, business-to-business customers demand the same level of speed and transparency.

“A lot of industrial manufacturers, and particularly chemical companies, are trying to figure out how they can respond to those

customers’ expectations without making the response so expensive that it becomes uncompetitive,” Challman says.

Unlike consumer goods companies, which can easily add warehouse locations to reduce shipping distances, chemical companies can’t always position inventory close to customers. “If you have a liquid chemical with certain storage requirements, and maybe certain environmental requirements, it becomes more complex,” Challman says. “It can be done, but it’s harder and more expensive.”

For some chemical shippers, visibility takes the place of ubiquity, especially when a customer urgently needs a certain product.

For example, CLX recently helped one customer outfit its private fleet of tank trucks with a real-time fleet tracking system. When—as often happens—a customer places a rush order, the shipper now can draw from inventory on the move as well as inventory in storage. “They have visibility into where a truck is on the road at any time,” Challman says. “So if they need to divert a load, they can make sure they divert the right one.”

Chemical companies are generally slow to embrace new trends, including advanced technologies, Challman says. But, faced with rising customer expectations, these companies have become more interested in solutions that provide a better view of what’s moving through the supply chain.

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must maintain a hazmat endorsement on their commercial driver's license. That makes it hard to secure transportation for chemical loads in a tight market.

While capacity has been a challenge for all shippers in recent years, the need for certified hazmat drivers creates special problems for chemical shippers. "We have only about 10 carriers to pick from that play in our region," says Adams.

The high value of some of the chemicals that Hydrite ships—products bound for electronics manufacturers—also requires careful carrier choices, he adds.

The certification requirement sometimes causes problems for HORN's inbound shipments from suppliers. Many suppliers specify that the distributor must choose from a short list of approved carriers when picking up product bound for HORN's distribution centers. "When things got tight, there weren't enough drivers or units on the road," says Martin. With less available capacity, HORN had to wait four weeks to receive products that used to arrive in two.

"The suppliers inadvertently put longer lead times in play, and that forced us to carry more inventory," Martin says. "That continues today."

Attracting New Drivers

Thanks to the hazmat certification requirement, drivers who haul chemical products tend to be older, on average, than the driver population in general, says Reggie Dupré, founder and CEO of Dupré Logistics in Lafayette, La. Fewer new drivers entering the industry are interested in handling hazmat, and "that will present some challenges going forward," he notes.

Why the reluctance? Hauling hazardous and liquid commodities is simply harder than hauling other products, Dupré observes. "And the other jobs typically have shorter hauls," he adds. "Adding up all the

things that chemical drivers must do presents challenges for people getting into that line of work."

Dupré Logistics focuses its services largely on the chemical and energy industries. On the chemical side, it helps producers of commodity and specialty chemicals with two categories of service—dedicated capacity, using its own fleet, and managed services, using its own and other carriers' fleets.

Three other pieces of federal regulation could also put the squeeze on capacity, according to Dupré. By December 2017, trucking companies must implement electronic logging devices (ELDs) to keep track of drivers' hours of service. The U.S.



Dupré focuses its services largely on the chemical and energy industries.

Department of Transportation has also proposed new rules that will require trucking companies to install speed limiters on their trucks, and establish a database of drivers with commercial drivers licenses who have failed or refused a drug test.

Dupré already uses ELDs and speed limiters, and it avoids problems with drug and alcohol, thanks to pre-hiring and post-accident screenings. But these new measures, as valuable as they are, could challenge other carriers they compete with for the best employees. "The effect will be a decrease in the

number of drivers," Dupré says.

For an asset-based 3PL serving the chemical industry, the key to the capacity puzzle is keeping enough qualified drivers on staff. That's Rinchem's strategy. "Rinchem offers above-average pay, great benefits, and a work-life balance that appeals to many drivers, allowing us to maintain our fleet," says Fitzsimons.

At Dupré Logistics, the key to maintaining hazmat capacity includes a training program for drivers who currently haul petroleum or other commodities for the company. "We school drivers for anywhere from four to eight weeks," says Dupré. "Then we oversee their work in short-haul movements, to prepare them to go out on long hauls."

The company also has a program aimed at drivers who work for Dupré's partner carriers. "We bring in a few drivers who have worked over the road and teach them how to haul liquid chemicals," Dupré says.

The pool of available drivers isn't the only factor that makes capacity a challenge for chemical shippers. The need for specific equipment, such as tank trucks, hopper trucks, and specialized rail cars, also poses a challenge, says Glenn Riggs, senior vice president, corporate logistics operations and strategy at Odyssey Logistics & Technology, in Danbury, Conn. When the load calls for temperature control, finding an appropriate trailer can be tough.

"There's good capacity in refrigerated transport," Riggs says. "But you can never commingle hazardous materials with food. A hazardous material that needs to stay cold has to move in hazardous-acceptable refrigerated equipment to match it." Shippers and their partners get the job done, but it's not always easy.

Actually, the capacity crunch for chemical shippers has eased up a bit, now that a softening energy market has reduced deliveries into the oil fields. "We've seen a number



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of drivers come back from oil and gas into chemicals," says Buelt. Optimistic growth forecasts, such as the one from the ACC, are also attracting drivers back to the chemical industry.

"It may not provide the revenue they made when they were in the oil fields," he says. "But it's consistent, and more likely to get them home."

The transportation tug-of-war between the energy and chemical industries could shift one way or another after the November 2016 elections, depending on how the new president and Congress feel about building energy pipelines. A bigger pipeline network means less

competition for space in liquid bulk rail cars. "Then that rail capacity may come back to the chemicals," says Buelt.

While the capacity crunch might have eased for now, the factors behind it—such as the aging driver population—haven't gone away, says Mike Challman, vice president, North American operations at CLX Logistics in Blue Bell, Pa. Chemical shippers still need to consider alternative ways to move their freight.

"Put shipments on rail when you can," he tells customers. "Consolidate loads so you need one truck instead of two. Those challenges will exist for a long time."

As they deal with safety, security, and capacity challenges, chemical shippers are getting a boost from new technologies. For example, TMS tied to telematics such as GPS devices, provide visibility into the progress of shipments. "We know when the truck enters the customer's facility and when it leaves," says Adams.

GPS technology and mobile phones help EMCO better manage its private fleet. "We keep in touch with drivers in case we want to change what they're doing, or if they encounter a problem," Polen says.

Benefits of ELDs

Because they include GPS devices and wireless communications, ELDs provide distinct operational and customer service advantages, along with their safety benefits, says Mike Forbes, senior vice president, logistics solutions at Kenan Advantage Group (KAG).

An asset-based transportation and logistics solutions company based in North Canton, Ohio, KAG started implementing ELDs about 12 years ago, "basically for safety and hours of service compliance," Forbes says.

Then the company started integrating data from the ELDs into its dispatching and customer service operations. "The key is turning that tremendous volume of data into information to help you become more efficient within your own business, and help your customers become more efficient."

TMS prices are dropping, putting them within reach of smaller chemical shippers such as HORN. The company's own TMS helps it find the most appropriate carriers for its commodities in particular lanes.

With the volume of chemical shipments on the rise, handling the product safely, securely, and efficiently will be more important than ever in the coming years. **CL**

Have it Your Way

Chemical logistics demands a great deal of customization. "A one-size solution does not fit all," says Mike Forbes, senior vice president, logistics solutions at Kenan Advantage Group (KAG) in North Canton, Ohio.

For one thing, different chemical products require different transportation equipment. Some bulk liquids must be maintained at specific temperatures. Some can't travel in ordinary stainless steel tank trailers, but instead need tanks with rubber lining. "You have to do a lot of vetting, based on equipment types," he adds.

KAG serves chemical companies, as well as companies shipping food grade liquids, through its Specialty Products business. It offers chemical transport (a common carrier service), dedicated contract carriage, and value-added services through its KAG Logistics group. KAG also offers support services, including tank leasing and tank washing.

Because liquid chemicals come with such particular transportation needs, dispatching a chemical shipment involves much more than just finding an available truck. "There's a lot of upfront work just to get a load planned with the right equipment, the right driver, and the right commodity vetting," Forbes says. The need for customization extends far beyond matching loads to equipment, as many chemical shippers have special requirements of their own.

"Special requirements may have to do with safety procedures at pickup," Forbes says. "Or they could involve restricted access to facilities." Some customers require the driver to undergo special training in order to haul its products.

Shipper requirements often involve procedures for washing a tanker trailer between loads. "Different customers require their own preparation procedures when you wash, if you're going to pick up their load," Forbes says. "The wash station has to be certified in their prep to wash a tanker." Each special requirement comes with its own paperwork.

In addition, chemical shippers at times require transportation and logistics partners to observe unique safety procedures—perhaps even the kinds of uniforms employees wear. Often, the requirements depend on the type of chemical the company ships.

Given the varied and specific demands chemical shippers have for different products, it makes sense to develop a multi-faceted logistics solution. "KAG offers dedicated contract carriage, with the option to utilize chemical transport for another portion of the shipment," Forbes says. "And our KAG Logistics services supplement the overall solution set."

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