

US drum users are concerned that the shift to UN-based regulations will result in an increase in the incidence of packaging failures

PACKAGING SAFETY

Are you liable?

Kenneth Anspach, Howard Skolnik and David Butman review liability for shippers and transporters against a background of increased use of light gauge drums*

The 1990 amendments to the federal regulations under the US Hazardous Materials Transportation Act (HMTA) pertaining to requirements for non-bulk packaging (e.g. fibre, plastics and steel drums) construction have resulted in a substantial change in the manufacturing and performance of steel drums entering the market. As a result of the amended regulations, and a desire to reduce costs too, steel drums are increasingly being manufactured with reduced metal thickness yielding lighter weight. Recently, the Research and Special Programs Administration (RSPA) of the US Department of Transportation (DOT) tested plastics and steel drums with high hazard markings and found an excessive performance test failure rate¹. Concern over the amended regulations has arisen from not only the customers of steel drums, who face potential liability from drum failure, but from the steel drum manufacturing industry itself. This article will discuss the history of the regulatory approach to transport safety, the current performance-based safety requirements for steel drums, the consequences and results of the current steel drum requirements and the potential liability that all packaging purchasers face as a result of fibre, plastics or steel drum failure. Furthermore, it is the intention of this article to suggest that, although DOT already requires training for personnel dealing with hazardous materials, specific training for all persons conducting performance testing

would improve non-bulk packaging safety and reduce risk potential.

REGULATORY HISTORY

Historically, DOT, the agency charged with promulgating regulations for the construction of steel drums, has taken a command

and control approach to regulating their construction. Prior to the 1990 amendments, DOT implemented specification-based regulations which specified exactly how steel drums were to be constructed, as well as performance standards which the drums were required to meet.

Under these specification-based packaging regulations, DOT listed over 100 specifications of thickness for steel drums, how the drum seams were to be welded and every other aspect of how the drum was to be manufactured. In addition, DOT required steel drums to undergo performance testing to ensure that the drums complied with DOT performance standards. Performance testing was to be conducted by the manufacturers themselves. However, because DOT mandated exactly how the drums were to be constructed and because DOT enforced these regulations with unannounced visits to verify testing and manufacturing integrity, the fact that the manufacturers conducted the performance testing was of little concern. As long as the specifications for construction were complied with, the drums were certain to meet the performance standards. This programme of specification-based packaging regulations proved successful for 50 years.

NEW PERFORMANCE BASE

Under the current regulations, DOT has abandoned its specification approach to drum construction. In response to criticism that the specification-based regulations were outdated and impeded innovation by failing to allow manufacturers to implement new technologies in the manufacturing of steel drums, DOT has now promulgated performance-based manufacturing regulations that are closely aligned with the UN Recommendations on the Transport of Dangerous Goods. While many countries require a one-time, third-party test of all performance-based hazardous materials packaging design types, the US took exception to this testing aspect and instead allows fibre, plastics and steel drum manufacturers to undertake their own performance tests (i.e. self-certification).

Today, in order to allow for innovation in the manufacturing of steel drums, DOT requires that steel drums be constructed to meet certain performance standards. With very few exceptions, such as Poison Inhalation Hazard (PIH) containers, where most steel thicknesses are defined, the regulations no longer specify a minimum metal thickness for steel containers. The current regulation at 49 CFR 178.504(b)(1) merely specifies that steel drums be constructed with steel sheet of "suitable type" and "adequate thickness in relation to the capacity and intended use of the drum". Moreover, while the current regulatory system does require training for all individuals dealing with hazardous materials, one reported potential explanation for the excessive DOT test failure rate is that those performing the testing are not effectively trained in methods for conducting the performance testing. Furthermore, DOT has relaxed the mandated testing frequency and sample retention requirements. Today, some steel drums constructed with greatly reduced steel bodies and heads, (e.g. wall thicknesses of 0.8 mm, 0.7 mm and 0.6 mm steel) are being introduced to the market. Although these drum design types meet the minimum DOT

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test requirements, they have reduced margins of safety and can fail under less-than-perfect transit or handling conditions.

SAFETY CONSEQUENCES

As a result of the performance-based safety requirements, anecdotal evidence suggests that this new generation of light gauge drums has been failing at a higher rate than those which met the previous DOT specifications. Moreover, shippers who use these light gauge steel drums are exposing themselves to potential liability due to drum failure. In 1997 alone, American President Lines, one of the world's largest ocean shipping transporters, experienced a significant increase in hazardous material cleanup incidents due to improperly braced lighter gauge drums. Prior to 1997 incidents using heavier drums were significantly less when using similar bracing.

The reported excessive failure rate for steel drums can also potentially be linked directly to failure to monitor flaws in the performance of proper testing. Although the regulations require steel drums to be manufactured with "adequate thickness", performance testing may not reflect the combined forces and actual transport environment in which the container will be shipped. Because DOT neither requires performance test training for those who conduct the actual testing nor regularly monitors and audits first or third-party performance testers, the current regulatory system fails to provide adequate assurance that a manufacturer's testing is being conducted accurately and appropriately, or if the testing is being conducted at all. Even if performance testing for specific stresses is being conducted and the steel drums perform according to the standards, performance tests often do not accurately simulate real-life shipping conditions where drums endure combined stresses all at the same time.

Common causes of drum failure resulting from the performance-based regulations include inappropriate gaskets used to seal the head of the drum, mismarking and mislabeling of drums and thinner gauge steel used in the manufacturing of the drums. Drums manufactured with thinner steel puncture more easily than drums manufactured with heavier gauge steel. Again, anecdotal evidence suggests that an increase of in-transit damage occurs with the lighter gauge drums.

DOT penalties against manufacturers which violate manufacturing regulations are inadequate to discourage cheating. At present, as reported in the *Federal Register*, Volume 62, No 13, many of the fines imposed for violating DOT manufacturing or testing regulations are capped at \$10,800. As a result, manufacturers are able to profit from inadequately manufactured steel drums for years before being cited with a nominal penalty.

POTENTIAL LIABILITY

Shippers and transporters which purchase and use marginally safe packagings are exposing themselves to an array of potential liability. This liability encompasses both traditional common law causes of action as well as federal statutory causes of action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Clean Water Act.

This potential liability applies whether the shipper or transporter is utilizing steel drums or other containers such as fibre and plastic

drums. Note that HMTA preempts states from adopting regulations which create an obstacle to enforcement of federal regulations under that statute. However, it does not prohibit the enforcement of laws which would provide a remedy for damages caused by packaging failure even where the package was supposedly manufactured in accordance with the federal regulations.

Common law negligence If a marginally safe package used to transport hazardous or toxic materials fails or is punctured, the filler can be held liable for damages if he was negligent in his choice of packaging selection. Under a negligence cause of action a shipper in this situation can be liable for damages caused by the spill if the transporter has a legal duty to use certain packaging to protect others against unreasonable risks, the transporter breached that duty by failing to reasonably ensure that the certain packaging was being used, the shipper's failure to use reasonable care has a reasonably close causal relation to the injury suffered and the plaintiff in fact suffered a loss or injury.

In *Triche v Overnite Transportation Co*, 1996 Lexis 10168 the United States District Court for the Eastern District of Louisiana found the defendant liable for injuries the plaintiff suffered as a result of the defendant's negligent handling and transporting of sodium bichromate. In this case, the defendant transported two drums of sodium bichromate on a flatbed truck. The drums were not fastened or secured except for being placed on cardboard to prevent them from sliding. During transport one of the drums fell over and ruptured, spilling its contents across the highway and onto the plaintiff's car and upper body. The court held that because the defendant owed a general duty to the plaintiff, as well as the public, to use reasonable care in transporting hazardous materials, and because the defendant breached that duty by failing to use reasonable care in transporting the drums containing the sodium bichromate, the defendant was liable for the plaintiff's injuries.

Common law nuisance In addition to negligence, a transporter may also be held liable under either a private or public nuisance cause of action in the event of packaging failure. Liability for causing a private nuisance is established if the transporter's use of a marginally safe package that fails causes an invasion of another's legally protected interest in the use and enjoyment of his land. In addition, the plaintiff bringing a private nuisance cause of action must prove that the invasion was either (a) intentional or unreasonable or (b) unintentional but negligent, reckless or the transporter was engaged in an abnormally dangerous activity. A public nuisance cause of action requires the same elements to be established. However, it is generally brought by a governmental entity for an invasion of the public's legally protected interest.

In *Williams Pipe Line Co v Bayer Corp*, 964 F Supp 1300 the United States District Court for the Southern District of Iowa found that pollutants that had leaked from aboveground storage tanks on Williams Pipe Line's property onto Bayer's property via groundwater constituted a nuisance. The court determined that because Bayer could not sell its property and its property value was reduced due to the contamination

caused by Williams Pipe Line's leaking storage tanks, the leaking storage tanks constituted an unreasonable interference of Bayer's interest in the use and enjoyment of land. As such, the leaking storage tanks were a nuisance and the court held Williams Pipe Line liable for the diminution in the market value of Bayer's property. While this case does not specifically deal with the transport of hazardous material, the same principles would apply.

Common law trespass Similar to nuisance, a trespass cause of action is also an action brought for damage to property. A transporter can be held liable for trespass if he intentionally causes a substance to enter the land of another, intentionally allows the substance to remain on the land of another, or fails to remove the substance from the land of another where he has a duty to do so. In the example of a transporter whose package fails and causes a spill, liability may be established where the transporter knew that the package was a below-standard package but used the package anyway, or knowingly allowed the substance to remain on the property after the spill occurred.

Abnormally dangerous activity A transporter engaged in transporting highly toxic or flammable substances may be held strictly liable for damages caused by package failure as well. Because transporting highly toxic or flammable substances on highways is generally considered an "abnormally dangerous activity", a transporter is held liable regardless of fault. As such, the mere fact that the package fails during transport and causes injury or damage to property is enough to hold a transporter liable for those damages.

In *Siegler v Kuhlman*, 81 Wash 2d 448 the Supreme Court of Washington held that the defendant was strictly liable for damages resulting from a gasoline spill. In this case, the defendant was transporting gasoline on a public highway when the gasoline spilled and caused the plaintiff to be killed in an explosion. The court held that transporting several thousand gallons of highly flammable and volatile gasoline is an abnormally dangerous activity and requires the imposition of liability without fault.

CERCLA liability Under CERCLA, transporters of hazardous substances may also be held strictly liable for the entire cost of cleaning up spills that occur as a result of package failure. If there has been a release of hazardous substances into the environment, CERCLA imposes liability on all "potentially responsible parties". A potentially responsible party under CERCLA includes any person who arranged for the treatment or disposal of hazardous substances, as well as transporters of hazardous substances where the transporter has selected the site for disposal or treatment.

Establishing transporter liability in the event of package failure is straightforward when the transporter is the same person who initially arranged for the disposal or treatment of the hazardous substance being transported. However, establishing transporter liability is more difficult when the transporter was merely hired by another party arranging for the disposal or treatment of hazardous substances.

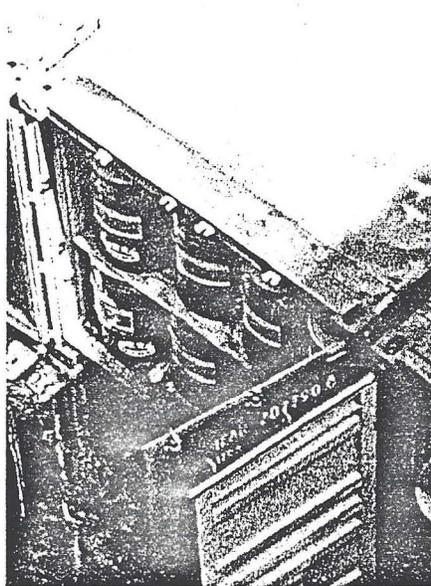
In *Danella Southwest Inc v Southwestern Bell Telephone Inc*, 775 F Supp 1227 the transporter, Danella Southwest, was liable for

DRUMS/IBCs

cleanup costs under CERCLA. In this case, the transporter was hired by Southwestern Bell to remove and dispose of contaminated soil. Because the transporter selected the disposal site in addition to transporting the soil, the transporter qualified as a potentially responsible party and was strictly liable for the costs of cleaning up the site.

Clean Water Act liability Another federal statute under which a transporter can be held liable in the event of package failure is the Clean Water Act. Under the Clean Water Act, it is illegal to discharge any pollutant into a "navigable water" without a National Pollutant Discharge Elimination System (NPDES) Permit. The meaning of what constitutes a "navigable water" is broadly defined and includes lakes, rivers, streams and wetlands. Moreover, establishing liability for violating the Clean Water Act requires the plaintiff to show that the discharge of pollutants occurred from a "point source". Point source, however, is also broadly defined and includes any discernible, confined and discrete conveyance, including containers and vessels.

Penalties for violating the Clean Water Act can range from administrative, civil or



The associated costs of a packaging failure should raise concern among shippers that suitable packaging is not being used to cope with 'wear and tear' during transport

even criminal. Civil penalties can range as high \$25,000 per day of the violation. Therefore, in the event a package fails and releases its contents into a nearby stream, the transporter can face penalties for violating the Clean Water Act.

CONCLUSION

Because of the increased potential for failure from less sturdy packaging some drum manufacturers of fibre, plastics and steel drums are concerned that the long range effect of the current performance-based regulations will create a less safe transport environment. These industry activists argue that if marginally safe drums of any type continue to enter the marketplace their customers will lose confidence in drums or any packaging and turn to alternative forms of shipping containers. Therefore, these activists are calling for more regulations regarding performance test training of those persons performing the first and third-party tests and increased DOT monitoring of the current self-performance testing system to ensure reliability of the tests.

Until DOT makes changes implementing these recommendations, packagers and transporters which use fibre, plastics and steel drums should consider their ultimate liability. To reduce exposure packagers and transporters seeking to use fibre, plastics and steel drums should research their supplier to ensure that their testing process and results are reliable. Moreover, purchasers should view steel drums constructed of thinner steels as a short-sighted cost saving option. It is an option that could yield increased liabilities and exposure for packagers and transporters. The minimum cost of purchasing the thicker walled steel drums can be justified through expanded safety margins and reduced risks for the packager and transporter. Package selection, therefore, is the first link in the transport chain of liabilities. It is imperative that shippers, fillers and transporters recognise that their combined liabilities are protected when drums are chosen for product transport which minimise transport risk.

**Kenneth Anspach, an attorney at Anspach & Associates, Suite 1435, 111 W Washington St Chicago, IL 60602, USA; telephone: (+1 312) 407 7888, concentrates in environmental and commercial law and litigation. He represents banks, manufacturers and industrial property owners. Mr Anspach is a former hearing officer for the Illinois Pollution Control Board and a former Illinois assistant attorney in the Environmental Control Division.*

Howard Z Skolnik is president and CEO of Skolnik Industries Inc, specialising in salvage drum and low-level nuclear waste handling. Website: info@skolnik.com; E-mail: www.skolnik.com; telephone: (+1 773) 735 0700; fax: 735 7257.

David Butman is a third year law student at Chicago-Kent College of Law and is enrolled in the Program in Environmental and Energy Law.

This article is not to be interpreted as a substitute for an attorney's competent legal analysis and advice.

Footnote:

1. Hazmat Packager & Shipper, Sept/Oct 1997 Vol 8 No 3. The article indicated that the failure rate was 75 per cent.