



TRANSPORTING DANGEROUS GOODS – AN UPDATE

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Background

Over the past few decades, the complexity of the law and practice in relation to the transportation of dangerous goods has been a key area of topical discussion amongst the international trading community.

Containerisation has grown significantly over the last 20 years and more and more hazardous cargo is now shipped in containers as economies of scale have decreased freight costs. As a result, container insurance premiums are generally higher per gross ton than, say, an LNG carrier even though the latter would present a greater insurance risk in terms of exceptional incidents. It is believed that there are many unreported cases of fires and accidents on board vessels at sea caused as a result of shipping dangerous goods. The few cases which are reported usually come to light either via the media or if court proceedings are engaged. On the other hand, there are far fewer cases of air incidents and the ones which have occurred are usually covered immediately by the press due to the severity of the incidents.

The practice of transporting dangerous goods poses major risks to every party involved. On the one hand, the buyer and seller should want to ensure that the goods meet the regulatory requirements for movement and that the goods will be safely transported in return for payment. On the other hand, the carrier and any relevant parties involved in the chain of transportation contracts, such as a charterer or agent, arguably bear even more risk because of their direct involvement in possession and movement of the goods – often over substantial distances and for lengthy periods of time.

The risks involved are not simply monetary; these are not matters that can quickly be resolved by insurers. Incidents arising from the transportation of dangerous goods often result in loss of life or substantial injuries to crew members. The press is usually involved. There can be numerous cargo claims. General average is usually declared. Government bodies and regulators may investigate independently. Environmental issues may arise from the dangerous goods' escape. Salvage operations may be required and there may be total loss of a carrying vessel. The commercial reputations of the parties are on the line as questions over an incident may be raised by existing and potential counterparties. All of these considerations can have a major effect on those involved and case files can remain open for several years.

“Dangerous goods” regulations

The first question which should be asked is: what are “*dangerous goods*”?

To the average lay person, perhaps one obvious example of such regulations is the prohibition of dangerous items onboard aircraft. All airline companies place restrictions on passengers from carrying certain items on board, including: pressurised containers; flammable objects; explosive objects; chemical items; projectiles; firearms; sharp objects; and, largely due to the threat of terrorism to the aviation industry in recent years, a restriction on the volume of liquids.

Originally, one of the issues faced was that the definition of “*dangerous goods*” (or “*hazardous materials*”, as the USA prefers) varied in description from country to country. However, largely thanks to the United Nations, most jurisdictions now provide a legal framework to regulate the transportation of dangerous goods, whether by air, sea or road/rail. The development of international trade and multi-modal transport over the past few decades has led to reasonably good uniformity such that, today, the air, sea and road/rail transport requirements are usually sufficiently similar so as not to require the goods to be re-classified or re-packed where diverse multi-modal transport methods are involved.

The majority of jurisdictions have now adopted regulations based on the United Nations’ guidance contained in the United Nations Recommendations on the Transport of Dangerous Goods and Model Regulations. The International Maritime Organisation and the International Civil Aviation Organisation have also played a substantial part by unifying the standard and recommended practices for sea and air cargo movement across the world. There are now uniform procedures for classification, packing, marking, labelling and documentation of dangerous goods.

The UN categorises “dangerous goods” into 9 broad classifications, each of which is supplemented by detailed guidance including specific examples:

1. Explosives,
2. Gases,
3. Flammable liquids,
4. Flammable solids,
5. Oxidising substances,
6. Toxic and infectious substances,
7. Radioactive material,
8. Corrosives, and
9. Miscellaneous dangerous goods.

It should be noted that the concept of dangerous goods includes what is apparently safe cargo which in appropriate circumstances may create a hazardous situation. For example, in *The Amphion*,¹ the shipper was liable under its charterparty for damage to the vessel caused by a cargo of bagged fishmeal that ignited during unloading because the shipper had not applied antioxidant treatment which would have substantially reduced the risk of ignition to the cargo.

Goods are regarded as dangerous not only where they endanger the safety of the ship and the cargo but also where they detain the vessel. For example, in *Mitchell, Cotts v Steel Bros and Co Ltd*,² where a cargo of rice was held to be dangerous since the charterer knew of the need for permission from the British government in order to unload the cargo but did not inform the shipowner of this.

Liabilities when transporting dangerous goods

How does the law balance the interests of the shipper and carrier in relation to transporting dangerous goods?

At common law, there is a general obligation implied into the bills of lading for a charterer not to ship dangerous goods without disclosure. A shipper has an obligation to inform a carrier of the dangerous nature of the goods whether or not the shipper is aware of the dangerous nature. However, notification is not required where the carrier or a member of the crew knows or ought to have been reasonably aware of the dangerous nature of the cargo. For example, in *Brass v Maitland*,³ the carrier was expected to know of the dangerous character of chloride of lime since the cargo was described as bleaching powder. The carrier has the burden of proving lack of notification regarding the dangerous nature of the goods.

Under Article IV(6) of the Hague-Visby Rules, where goods of an inflammable, explosive, or dangerous nature are shipped without the carrier's consent (or the carrier's master or the agent), then the carrier can land them at any place or destroy or render the goods innocuous at any time before discharge. If the carrier does this, the carrier is not liable to pay any compensation to the shipper. The shipper is therefore liable for all damages arising directly or indirectly as a result of such a shipment. Article IV(6) imposes an absolute duty on the shipper.

¹ *The Amphion*, Q.B.D. (Com.Ct.) (Evans J.) - 8 March 1991

² *Mitchell, Cotts v Steel Bros and Co Ltd*, [1916] 2 KB 610

³ *Brass v Maitland*, (1856) 6 E & B 470

If the carrier has consent and knowledge of the dangerous goods, and the goods become a danger to other cargo or the ship, then the carrier is also free to land them at any place, destroy or render them innocuous. Where this happens, the carrier will be liable only in general average. However, it must be noted that the Hague-Visby Rules leave the word “*dangerous*” undefined and, whilst it appears to be a wide term, case law is yet to fully explore its scope. In the case of *Effort Shipping Co Ltd v Linden Management SA*,⁴ it was held that a cargo of processed nuts infested with Khapra beetles (a type of beetle with voracious appetite) was held to be “*dangerous*” pursuant to Article IV(6). The shipper was therefore found liable to the carrier after the carrier destroyed the cargo and fumigated the ship.

The Hague-Visby Rules provides various exceptions for which the carrier shall not be held responsible for loss or damage from:

- a) Act, neglect, or default of the master, mariner, pilot, or the servants of the carrier in the navigation or in the management of the ship.*
- b) Fire, unless caused by the actual fault of privity of the carrier.*
- ...
- i) Act or omission of the shipper or owner of the goods, his agent or representative.*
- ...
- m) Wastage in bulk or weight or any other loss or damage arising from inherent defect, quality or vice of the goods.*
- n) Insufficiency of packing.*
- o) Insufficiency or inadequacy of marks.*
- p) Latent defects not discoverable by due diligence.*
- q) Any other cause arising without the actual fault or privity of the carrier, or without the fault or neglect of the agents or servants of the carrier, but the burden of proof shall be on the person claiming the benefit of this exception to show that neither the actual fault or privity of the carrier nor the fault of neglect of the agents or servants of the carrier contributed to the loss or damage.”*

(Article IV)

⁴ *Effort Shipping Co Ltd v Linden Management SA*, [1998] UKHL 1

It is important to recognise that, notwithstanding that a ship may be found to have been unseaworthy, unseaworthiness in itself is not fatal to a successful defence. However, once the ship is proved to have been unseaworthy then the carrier has the burden to prove that due diligence was exercised and it is only when the carrier can prove that due diligence has been exercised that he can go on to use the exceptions above. In *Maxine Footwear Company Ltd. v Canadian Government Merchant Marine*,⁵ the claimant's cargo was destroyed by a fire in port. It was found that the cargo was stowed after the fire broke out but before it was discovered. The court held that, in relation to fire, proof of exercise of due diligence pursuant to the requirements of Article III(1) is an overriding obligation. If it is not fulfilled and the non-fulfilment causes the damage, the immunities of Article IV(2) (e.g. fire) cannot be relied on.

Where the shipper reasonably believes that the goods are safe but they subsequently become dangerous and cause damage, the shipper will not be responsible for loss or damage sustained by the carrier arising or resulting from any cause without the act, fault or neglect of the shipper or their agents involved (Article IV(3)). This situation is rare, however, and is a matter of fact and proof. It is therefore a defence which is difficult for shippers to rely on.

Under the Hamburg Rules, where shipment consists of dangerous goods, the shipper is under an obligation to inform the carrier or actual carrier of the dangerous nature of the goods and the precautions that need to be taken in relation to the goods. Furthermore, the shipper is required to make or label the goods in a suitable manner (Article 13(1)) and, where a bill of lading is issued, the particulars about the dangerous nature of the goods must be included in the document.

The shipper is liable for any loss to the carrier where he has failed to furnish the required information and the carrier or actual carrier does not otherwise have knowledge of the dangerous character of the goods (Article 13(2)(a)). Where dangerous cargo is carried without the carrier's knowledge, he can unload, destroy or render it innocuous depending on the circumstances without incurring liability to the shipper.

Where the carrier consents to the carriage of dangerous goods, he may unload, destroy or render them innocuous if they become an actual danger to life or property. The Hamburg Rules do not place him under an obligation to pay compensation, except where there is an obligation to pay general average, or where he is in breach of the other contractual provisions.

⁵ *Maxine Footwear Company Ltd. v Canadian Government Merchant Marine*, [1959] AC 589

Update: the new lithium battery regulations

Those familiar with the transportation of lithium batteries will be aware of the new regulations published by the International Civil Aviation Organisation which came into force in January 2013. These regulations were pushed forward largely as a result of a recent case which highlighted the dangers of transporting lithium batteries.

On 3rd September 2010, a UPS Airline cargo flight on a Boeing 747 between Dubai and Cologne developed an in-flight fire which led to the crash of the aeroplane and both crew members dying. After an independent investigation was conducted by the General Civil Aviation Authority, a conclusive report was published stating that the cause of the fire was a cargo container filled with thousands of lithium batteries. The report went on to make over thirty recommendations for safety improvements and the Federal Aviation Administration subsequently issued a Safety Alert for operators highlighting the fact that halon, which had previously been considered to be a suppressor of lithium battery fires, has no effect on fires caused or fuelled by certain types of lithium batteries.

There are two types of lithium batteries: lithium ion batteries and lithium metal batteries.

Lithium ion batteries are commonly found in laptops, computers, mobile phones and MP3 players. They have a current within the cell which is carried by lithium ions. These contain a flammable electrolyte and are rechargeable batteries. Fires involving this battery type usually involve multiple eruptions of flames and sparks, but can be suppressed by halon.

Lithium metal batteries are often found in flashlights, cameras and smoke detectors. They contain metallic lithium within the cell. These are extremely reactive, difficult to extinguish and are non-chargeable batteries. It is worth noting that lithium metal battery fires burn above the melting point of aluminium and halon has no effect on a lithium metal battery fire.

Lithium batteries generally hold two threats. The first threat is as a fire initiator. Lithium batteries can initiate a fire via a deflection, improper packaging or through damage to the battery. One problem is that fires can be initiated at any time after damage occurs and it is therefore difficult to predict how likely and, if so, when a fire may occur. Secondly, lithium batteries are a fuel for independent fires. Fires can quickly spread to all cells within a shipment. As a result of the previous lack regulations allowing large quantities to be shipped, a fire which would otherwise have been manageable would have turned into a potential loss of vessel incident, which is what happened on the UPS cargo flight. Fortunately, there have been no further reported incidents since the new measures were introduced.

Conclusion

The majority of incidents arising out of the transportation of dangerous goods occur because of mis-labelling, mis-packaging or mis-handling, but it is clear that both the shipper and the carrier have duties to ensure that dangerous cargo is safely transported.

The recent regulations on the transport of lithium batteries highlight the importance of independent regulators and the collaboration between international traders to ensure that regulations on dangerous goods are kept up to speed with new types of dangerous goods being transported.

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