Standard Safety
Better box booking

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The Standard for service and security

Standard Club

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Introduction

This edition of Standard Safety approaches the well-publicised issue of misdeclared container cargo incidents from a new perspective. The Standard Club's analysis of past misdeclared dangerous cargo incidents shows that the container booking process needs to be reviewed and tightened. This guide sets out the findings from our analysis and what measures ship operators can put in place to safeguard their ships, reputation and crew.

Contents

Each year around two million containers packed with dangerous goods and wrongly declared as non-dangerous are loaded onto ships. This means ship operators will not take any special precautions for carrying them. As such, the containers could catch fire, explode or leak at any time, causing great damage to the ship and their operators' reputations.

Ship operators therefore need to do everything possible to avoid booking containers with dangerous cargoes which have been wrongly declared as safe – whether fraudulently or by mistake.

The problem of misdeclaration

The misdeclaration of dangerous container cargoes as being harmless is shockingly commonplace. Shortcomings in ship operators' booking systems mean frauds and mistakes continue to go undetected – with potentially disastrous results.

History

The misdeclaration of cargo is not a new phenomenon. The Standard Club has long campaigned to raise awareness of the issue and the risks it represents to ship operators.

In July 2014, we published a special edition of Standard Cargo on the topic. This referred to the well-known cases of container fires on the *Recife* in 1991, *Anconcagua* in 1998 and *CMA Djakarta* in 1999.

In all three cases, the cargo was calcium hypochlorite, a chemical commonly used and transported. At anything above 30°C in a confined space, it can undergo an exothermic chain reaction leading to fire, explosion and toxic emissions.

More recent cases include the *Maersk Seoul*, *Maersk Londrina*, *Barzan*, *Al Ula*, *Hanjin Green Earth* and *Cape Moreton* in 2015 and the *APL Austria* in 2017. Undeclared calcium hypochlorite is suspected in all these cases. Charcoal and expandable polystyrene beads are also common causes of such incidents.

The shipping industry has responded in various ways. These range from biennial updates of the International Maritime Organization's increasingly complex International Maritime Dangerous Goods (IMDG) code, to an ever-wider range of cargoes being banned by liner operators.

But the consequence of greater restriction is greater incentive for some manufacturers and their shippers to commit fraud to export their products. A dangerous cargo rejected for shipment will find its way onto a ship one way or another.

Recognising the issue, the International Group of P&I Clubs and the Cargo Incident Notification System (CINS) published Guidelines for the Carriage of Calcium Hypochlorite in Containers in May 2016 and revised it in January 2017 and January 2018. They show that – properly declared, packed and stowed – calcium hypochlorite is safe to carry in containers and need not be banned.

However, while operators' booking offices continue to reject it – or charge excessively for carrying it – the temptation to commit fraud remains.

Dangerous cargoes

The IMDG code is the internationally accepted guide for the identification and safe transportation of dangerous goods in packaged form. First published in 1965, the code has been mandatory under SOLAS regulations since 2004 and is updated every two years.

The code provides advice on the packaging, labelling, stowage, segregation, handling and emergency response for each hazardous substance. In particular, it requires the issue of a compliant Dangerous Goods Transport Document and a Dangerous Goods Container Packing Certificate for each container.

The code also imposes mandatory training on dangerous cargoes for shore-based personnel including shippers, freight forwarders, container packers and shipping line operators.

What is a dangerous cargo?
Dangerous cargoes are listed in volume two of the three-volume IMDG code and are divided into nine hazardous risk classes. Each cargo has a 'proper shipping name' and one or more four-digit United Nations (UN) identification numbers.

For each cargo, the code identifies subsidiary risks, UN packing group(s), special provisions, limited quantity per inner packaging, packing instructions, special packing provisions, emergency schedules for fire and spillage, stowage and segregation provisions, and cargo properties and observations.

> Booking office staff and agents need to know the proper shipping names, UN numbers and shipping requirements of all dangerous cargoes before considering accepting them for shipment.

While the code is comprehensive and well intentioned, it suffers from its ever-increasing length and complexity. It also has a number of grey areas, such as the fact that not all of it is mandatory. It is these grey areas that some manufacturers and shippers seek to abuse.

To understand how the IMDG code works in practice, it is useful to look at the example of calcium hypochlorite – which is by far the most commonly misdeclared dangerous cargo.

Calcium hypochlorite
Calcium hypochlorite is a product used for sanitising public swimming pools, disinfecting drinking water and as a bleaching agent. Global production for both domestic and export markets is estimated at about 400,000 tonnes a year and it is normally shipped in granular or tablet form.

Calcium hypochlorite is generally designated as an IMDG class 5.1 oxidising agent due to its high oxygen content. At normal temperatures, it slowly decomposes to release heat, oxygen and chlorine gas. At higher temperatures, the rate of decomposition increases and, if the heat is not able to escape, a chain reaction can result in a fire and/or explosion.

The decomposition can be accelerated by contamination with organic materials (such as oil), inorganic materials (such as metals) or moisture. If calcium hypochlorite is mixed with organic materials, it can result in a fire without the need for an external ignition source.

As such, the code also specifies that the cargo must only be carried on deck and must be 'shaded from direct sunlight and all sources of heat and be placed in adequately ventilated areas'. That means avoiding hot tank tops and ensuring the container is shielded by other containers.

Additional requirements of the International Group/CINS guidelines are to use plastic drums with adequate air circulation, put no more than 45kg in each drum and 14 tonnes in each container, and ensure the container remains accessible in the stow. Either dry or reefer containers may be used provided a proper risk assessment is undertaken.

Some calcium hypochlorite products and mixtures are also classed as IMDG class 8 corrosive or alternatively as a class 9 environmentally hazardous substance. The table on page 4 shows the eight different identifications of calcium hypochlorite cargoes in the IMDG code.

As can be seen, while 'calcium hypochlorite' is a proper shipping name, it comes in a confusing range of forms and descriptions. It is nevertheless vital – and indeed a requirement of the IMDG code – that all booking staff are familiar with these varieties and the risks that each one represents.

Furthermore, under the UN Harmonized Commodity Description and Coding Systems, calcium hypochlorite is coded HS 282810. However, extended or similar tariff codes are used in some countries for related bleaching pastes and powders, so again care is needed.

HS Codes

The UN Harmonized Commodity Description and Coding System, also known as the Harmonized System (HS), is the international standard to describe cargoes for customs purposes. It was created and is administered by the Brussels-based World Customs Organization.
HS codes are six-digit numerical codes common to all countries. Countries are permitted to add additional numbers to create their own customs tariffs and for statistical needs, leading to eight-, ten- and sometimes 12-digit national codes which can cause confusion for booking office staff. For example, for calcium hypochlorite (HS 282810), the UK commodity code is 282810000.

HS codes are subject to revision every five years and national tariff codes can change several times a year. There is also potential confusion over HS names. The HS name for calcium hypochlorite is 'Commercial calcium hypochlorite and other calcium hypochlorites'.

Government studies have shown that one out of every three cargoes is misclassified, according to customs compliance specialist 3CE.[1]

HS codes help booking staff to correctly identify cargoes if the declaration contains a translated name. It is even more important for booking staff to insist on the use of HS codes if non-DG cargoes are booked, as in these cases, there is no UN number to assist with correctly identifying the cargo.

IMDG class	UN number	Description
class 5.1	UN 1479	OXIDIZING SOLID, N.O.S. (CALCIUM HYPOCHLORITE)
class 5.1	UN 1748	CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen)
class 5.1	UN 2208	CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 10% but not more than 39% available chlorine
class 5.1	UN 2880	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE HYDRATED MIXTURE with not less than 5.5% but not more than 16% water
class 9	UN 3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CALCIUM HYPOCHLORITE)
class 5.1, class 8	UN 3485	CALCIUM HYPOCHLORITE, DRY, CORROSIVE or CALCIUM HYPOCHLORITE MIXTURE, DRY, CORROSIVE with more than 39% available chlorine (8.8% available oxygen)
class 5.1, class 8	UN 3486	CALCIUM HYPOCHLORITE MIXTURE, DRY, CORROSIVE with more than 10% but not more than 39% available chlorine
class 5.1, class 8	UN 3487	CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE with not less than 5.5% but not more than 16% water

1 3CE. http://www.3ce.com/resources/faqs (accessed 24 October 2017).

Booking office staff and agents should insist on the use of the correct six-digit HS codes for all bookings, both dangerous and non-dangerous cargoes, before considering accepting them for shipment.

Consequences of misdeclaration

If a container with an undeclared dangerous cargo is booked onto a ship, it will be treated by the ship's officers as an ordinary non-hazardous container. In the absence of the required special treatment, the cargo is then very likely to become a danger to the ship, the crew and the rest of the cargo.

For example, if a container with calcium hypochlorite is put into a ship's hold, it will most likely get too hot. At some point in the voyage – which could be anything from hours to weeks after the ship has left port depending on the cargo and how and where it is stowed – the heat from natural decomposition will start to increase in the container.

With limited ventilation in the densely stacked hold, the heat will continue to build. As the temperature increases, so does the rate of decomposition. With nowhere for the heat to go, a self-accelerating reaction occurs resulting in a violent decomposition.

If there is anything combustible in the container, such as oil or other organic matter, the huge amount of heat will set it on fire – possibly explosively given the oxygen-rich atmosphere. As the fire takes hold, fuelled by further release of oxygen, combustible materials in adjacent containers will also catch fire.

Though container ship crews are trained to fight fires, a major unexpected fire in a fully laden hold several hundred miles from land is very difficult to deal with. First, they have to find the seat of the fire and then they have to find a way of tackling it with limited resources. In many cases, the only option is to abandon ship and wait for rescue.

Once the fire is put out, the results can be catastrophic, including injury or death of seafarers, extensive damage or total loss of the cargo and ship, and pollution of the environment. While such losses may be insured, the ship operator can never undo the suffering caused to crew members or recover the lost time, uninsured amounts and, above all, loss of reputation.

It really does not pay to let a misdeclared container slip through the booking process.

Current data and implications

The Cargo Incident Notification System (CINS) was set up in 2011 by five of the world's biggest container lines: CMA-CGM, Evergreen, Hapag-Lloyd, Maersk Line and Mediterranean Shipping Company. It now has 16 shipping line members, representing over 75% of the container slot market.

CINS aims to share information, amongst its members, on all cargo and container-related incidents via an online database. The aim is to increase safety in the transport chain, reduce the number of cargo incidents on board and on land, and highlight the risk caused by certain cargoes and packing failures.

Exact numbers are only available to CINS members, but from our own investigation, we understand that a large percentage of the reported incidents are related to the booking process.

According to Victor Enzler, Underwriting Marine Manager at XL Catlin: *'While the exact percentage of containers that are misdeclared is subject to considerable debate, many experts maintain that about one-third of all containers are wrongly declared.'*

'Also, about 10% of the containers in a typical voyage will hold hazardous or dangerous materials. That means one of these modern giants [of 18,000 TEU] could be carrying around 600 containers filled with hazardous or dangerous materials, and their certificates are wrong or incomplete.'[2]

Around 60m TEU of cargo is loaded onto ships each year[3]. Estimates suggest that up to 2m TEU could contain a misdeclared dangerous cargo. This is equivalent to over 5,000 TEU of misdeclared dangerous cargo every day.

2 Enzler V. The Perils of Misdeclared Cargo, Fast Fast Forward, XL Catlin, 14 March 2017. http://xlcatlin.com/fast-fast-forward/articles/the-perils-of-misdeclared-cargo (accessed 21 August 2017).

3 Neame C. and Pilkington S. *Dangerous goods in maritime container supply chains – ports and sea – and lessons from Tianjin*, presentation by Holman Fenwick Willan, 25 April 2017, citing State Administration reports to IMO on dangerous goods inspections and Maersk Line figures on containers.

How it happens and how to stop it

All booking office staff and agents need to be aware of how fraudulent shippers try to hide dangerous cargoes from them and why. This will help them to spot the 'red flags' of a potential fraudulent misdeclaration.

Fraudulent behaviour

The main reasons for fraudulent misdeclaration of dangerous cargoes in containers are to save time and money, and because there is a good chance of getting away with it.

Dangerous goods require special packaging and stuffing, with limits on package size and quantity per box. Suitable stowage space is also limited on the few ships that do carry such containers, and there is usually a surcharge for doing so. Misdeclaration removes all these costs and restrictions.

But there is always a chance the fraud will be discovered – either by diligence or disaster – so the perpetrators try to cover their tracks.

Accidentally misdeclared dangerous cargoes, while dangerous, are usually relatively easy to spot. It could be anything from a typing error in the UN number, HS code or proper shipping name, or simply a genuine misunderstanding on the part of the shipper. In such cases, booking staff can simply go back to the shipper, ask them to correct the declaration and resubmit or withdraw the booking.

Fraudulent misdeclarations can be much harder to identify.

One of the most common frauds is to avoid using the proper shipping name for a dangerous cargo. For example, calcium hypochlorite is commonly misdeclared as 'calcium chloride', 'whitening powder' or 'water treatment compound'. Examples of other trade names encountered include 'BK Powder', 'bleaching powder', 'bleaching agent', 'optical brightener', 'CCH', 'disinfectant', 'Hy-chlor' and 'Chloride of lime' or 'Chlorinated lime'. These descriptions are false, fraudulent and provide the ship operator and crew with incorrect information.

Additionally, fraudsters name a non-existent company – or a shell company with no assets – as the manufacturer of the falsely labelled goods. Provided no detailed checks are done, this is more likely to be successful than naming a known manufacturer of calcium hypochlorite, which should raise a 'red flag' for further checking. The real manufacturer's shipper may also prove to be non-existent or a shell to avoid prosecution.

Once a fraud is in motion, it can then work through the transport chain – facilitated by bribes where needed – and gain authenticity as it does so. For example, the shipper provides the fraudulent details to a forwarding agency to arrange export, and the forwarding agency in turn contracts a customs agency to complete the customs declaration and a logistics company to book the container onto a ship via a local booking agent. Declared all along as a non-hazardous cargo, the remote booking agent – paid on commission and with limited resources – might see little reason to query the booking with the main booking office.

A further part of the fraud can involve last-minute changes on the bill of lading to legitimise the cargo documentation. For example, while the local or main booking office may initially issue a draft bill of lading based on the fraudulent booking information or shipping instructions, the shipper may request amendments at the last minute to the final bill of lading issued by the ship operator's document control department.

Fraudsters hope the subtle differences between the final bill and the draft one will go unnoticed by the ship operator – including either correctly renaming the cargo or adding the correct name as a comment in the 'marks and numbers' box.

To complete the shipment of the apparently safe chemical cargo, the fraudster will also provide a Certificate of Safe Transport for Chemical Goods – ideally issued by a bona fide materials testing laboratory. Obviously, this is relatively easy to organise by providing the laboratory with a sample of the non-hazardous goods that are falsely claimed to be in the container.

Solutions

For ship operators, there are two obvious solutions to the problem of misdeclared cargoes – though neither is particularly practical.

One is to inspect every container before loading to ensure that the content matches the declared cargo. However, the complex logistics and huge costs of inspecting 60m TEU a year all but rule this solution out.

The other solution is for all ship operators to agree to carry properly declared and packed dangerous cargoes in containers, for the same cost as non-regulated cargoes.

Because cargoes such as calcium hypochlorite are banned by so many shipowners, the ships that do carry them have limited capacity and can charge premium rates – resulting in delays and higher costs for shippers.

Dramatically increasing capacity and switching to a flat rate would significantly reduce the time and cost savings to shippers of making a fraudulent misdeclaration – though they would still have to pay for special packaging and packing.

In reality, busy ship operators who are confident of their booking procedures are unlikely to see any commercial benefit in lifting cargo bans. Furthermore, dangerous cargoes do cost more to carry – and freight rates are already at historically low levels. The additional IMDG documentation and checks before loading, the special handling, care and stowage on board, the increased terminal charges and the increased risk to operations are all real costs that ship operators are unlikely to absorb.

There is, however, a third way. As our own investigation shows, the booking process accounts for a large percentage of misdeclared dangerous cargo incidents. Improvements to the booking process can therefore significantly help to identify and prevent misdeclared dangerous cargoes from being accepted for carriage, whether fraudulent or otherwise.

A case study

The following case study is based on an investigation by The Standard Club of one of its entered ships. Despite many red flags in the booking process, a misdeclared container of calcium hypochlorite was accepted and then caught fire at sea. This case study shows that improvements to the booking process can help solve the issue of misdeclared dangerous cargoes.

A modern Panamax container ship was owned and technically operated by a shipowner based in Europe, and time chartered to a major south Asian shipping company. The charterer was also a shipowner in a sector where the use of slot charterers was common.

The shipment was a number of containers of calcium hypochlorite manufactured by a chemical factory in China, believed to be a subsidiary of a major industrial conglomerate. However, the fraudulent booking received by the charterer's local booking agent (F) from a legitimate logistics company (E) was for a non-hazardous 'water treatment compound' (see diagram).

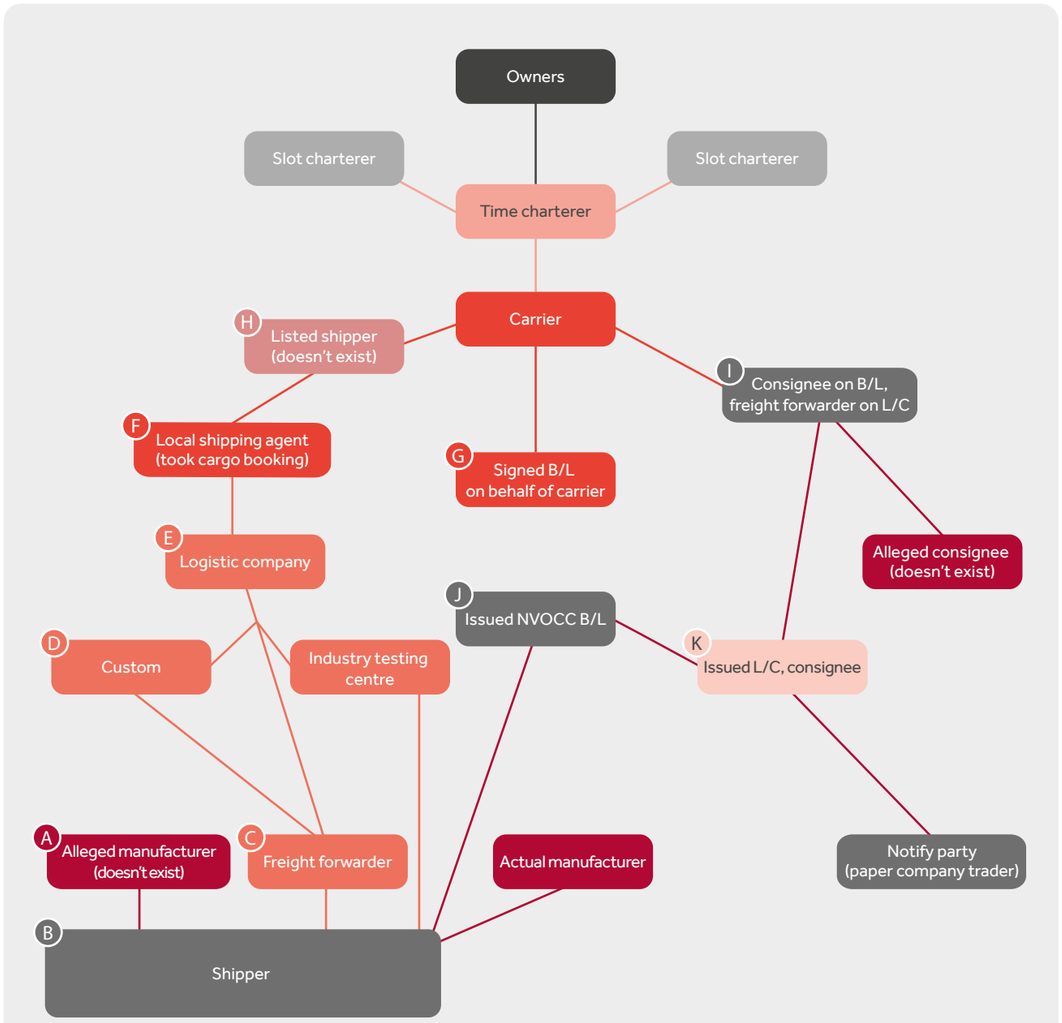
Red flag 1

'Water treatment compound' is one of many synonyms for calcium hypochlorite, so the booking agent should have raised concern with the charterer's main booking office.

On the booking documentation, the named manufacturer (A) did not exist and the fraudulent shipper (B) was a shell company with no assets. Also involved was a legitimate freight-forwarding company (C) and customs agency (D).

Red flag 2

A robust booking office 'know your customer' (KYC) process would have quickly identified the manufacturer as fake and the trading agent as suspicious. Vetting of the customer's (the logistic company's) KYC process would also have raised concerns.



A month later, the charterer's liner port agent (G) – based on documentation provided via the fraudulent shipper (B) – issued a draft bill of lading for the 'water treatment compound' cargo, with the shipper noted as a non-existent company (H) and the consignee as another company (I).

Red flag 3

Proper checks in the booking process would have identified the discrepancy between the shipper in the bill of lading and the shipper on the booking documentation. A KYC process would also have quickly identified that the new shipper was fake. The cargo name should have also raised suspicions with the charterer's liner port agent.

Two months later, the fraudulent shipper (B) arranged for changes to the final bill of lading to be requested by another legitimate freight-forwarding company (J). The final bill of lading now accurately described the cargo as 'calcium hypochlorite'. It also accurately named the shipper as (B), a new consignee (K) and changed the previous consignee (I) to the freight forwarder.

Red flag 4

Proper checks in the booking process would have identified the further discrepancies between the final bill of lading, the draft bill of lading and the booking documentation – the most obvious being that the cargo was now explicitly named as a dangerous cargo but not declared as such.

A month later, four months after the initial booking, the fraudulent shipper (B) issued material safety data sheets (MSDS) and a certificate identifying the main components of the cargo as 'water treatment compound'. At the same time, certification for safe transport of chemical goods was issued for the cargo by a legitimate industry testing centre based on samples provided by the fraudulent shipper (B).

Red flag 5

Proper checks in the booking process would have identified the discrepancy between the new bill of lading and the MSDS and certification.

The containers with the cargo were stowed below deck on the ship – an appropriate location for a benign, non-hazardous cargo, but not appropriate for calcium hypochlorite. The cargo subsequently caught fire during the voyage, setting fire to other containers containing highly flammable cargoes. The flaming ship was in a busy shipping lane and caused considerable risk to other ships. Fortunately, the crew were all able to be evacuated, but the fire took two days to put out and resulted in considerable damage to the ship and its cargo.

The Standard Club's investigation into the fire found that the ship operator in this case did not have the following systems or standards in place (or where they existed, they were inadequate):

- Documented procedures – there were no documented booking procedures or instructions for booking agents and freight forwarders.
- Training standards for booking agents – there was little to no training for people booking general or dangerous cargo. It was found that people involved in booking cargo had little understanding of what risks followed from a dangerous cargo misdeclaration.
- Assessing booking agents' and freight forwarders' relationships with customers – no due diligence or background checks were carried out for new customers.
- Information flow to booking agents – bills of lading were not sent for checking to booking agents.

In addition, the following deficiencies were identified in the charterer's booking process:

- There was no transfer of information when dangerous cargo was shipped on a slot-chartered or consortium partner ship.
- Forwarding and booking agents' software was not compatible with that of the charterer's main booking office.
- Additional cargo types could be added by the freight forwarder without approval of the charterer or shipowner.
- There was no robust approval system for dangerous cargo.

The advice set out in this guide would have helped the ship operator address all of the above shortcomings.

Know your customer

All booking office staff and agents need to know and trust their customers. This means doing due-diligence checks on new customers and their supply chains or, in the case of slot charterers and freight forwarders, confirming what checks they use on their own customers.

New customer vetting
New business is always welcome in the shipping industry. However, ship operators' booking office staff and agents must be constantly vigilant to ensure that new customers are reputable organisations and that they have a track record of shipping the specified cargo on the route requested.

Key points to check are that the customer is a proper legal entity in their home country, that the manufacturer of the goods – if not the customer – is identified and verified, and that the testing laboratory being used is both reputable and independent of the customer or manufacturer.

All new customers should be required to fill out an application form before any cargo is booked, which should include at least the following:

- Organisation name and contact details
- Ownership structure and registration details
- Organisation metrics (trading results, credit rating, staff numbers, offices, etc)
- Details of indemnity insurance
- Name of senior authorising executive and contact details
- Supply chain details (manufacturer, trading agent, freight forwarder, logistics company, customer agency, testing laboratory, etc)
- Types, origins and destinations of cargo being shipped
- Two trade references.

Some of the above data may be difficult to obtain as shippers may consider it confidential, but effort should be made to obtain as much as possible. Sufficient time and resources then need to be allocated to check these details. However, a simple internet search is a good starting point, both of the customer, other members of its supply chain and the named referees. Since its own websites may be fraudulent, make sure the customer, supply chain members and referees also appear on other industry databases or news reports.

Background checks also need to be made to ensure that the referees are genuinely independent of the customer organisation or the group of which it is part. Referees should then be contacted by telephone (rather than email, for example) for verification.

When the customer has been satisfactorily vetted, they should then be asked to sign the ship operator's terms and conditions. These should highlight the contractual importance of adhering to the booking process as well as draw attention to specific provisions regarding penalties for misdeclaration. Ship operators may seek The Standard Club's advice on the wording of their booking terms and conditions.

It is not uncommon for booking offices (or freight forwarders) to receive up to 50% of their weekly shipments from new customers. These new customers often only book a single shipment without repeat bookings. Nevertheless, KYC best practices should still be carried out.

Checking new customers in China
Most identified misdeclared dangerous cargoes originate in China. There are three simple steps that booking office staff and agents can take to ensure they are dealing with shippers who are fully registered and licensed legal entities in the People's Republic of China (PRC).

First, check that the shipper is registered as a Foreign Trade Operator (FTO) under the PRC Foreign Trade Law (2016). The relevant registration is with PRC Ministry of Commerce (MOFCOM) and means the entity is a legal person, organisation or individual (sole proprietor) permitted to conduct cross-border trading. Registration is also a prerequisite for PRC customs clearance. A shipper's registration status can be checked online at the MOFCOM website: http://iecms.mofcom.gov.cn/.

Second, verify the shipper's business licence from the National Enterprise Credit Information Publicity System at: http://www.gsxt.gov.cn.

Third, trace and identify the party paying freight. If the payer is not the ultimate shipper (ie the shipper at the beginning of the chain of contracts), or if the export licences have been forged or illegally acquired from a registered FTO by an unlicensed or unregistered individual, checking the named shipper will not be enough.

If freight is paid by a forwarding agent or multiple forwarding agents rather than the named shipper, the ultimate shipper needs to be identified to ensure it is not an unregistered or unlicensed individual. Freight being paid from a personal bank account rather than the named shipper's account also points to an unregistered or unlicensed individual acting fraudulently.

Finally, the testing laboratory used by the shipper should be accredited by the China National Accreditation Service for Conformity Assessment (CNAS) and can be verified at: https://www.cnas.org.cn/english.

HFW

Our thanks to HFW for contributing this article.

Booking office staff and agents need to check that the shipper and party paying freight are both registered and licensed, that the freight payment is not from a personal bank account and that the testing laboratory is accredited.

Due diligence practices of others
It is also important for ship operators to audit the due-diligence procedures of existing customers that regularly book cargoes on behalf of others – such as freight forwarders and slot charterers.

When a trusted freight forwarder books a cargo at the last minute from a manufacturer unknown to the ship operator, it can avoid the need for a background check if the freight forwarder's own vetting processes are known and trusted by the ship operator.

In the case of consortium and slot charterer business, the commercially sensitive and confidential nature of these shipments means the ship operator is usually told little more than the container number, weight, destination port and carriage requirements of non-dangerous goods containers, and not what they contain. As such, the due diligence of the slot charterer needs to be relied upon completely.

Ship operator booking staff therefore need to ask their existing customers and consortium members to provide a regular (at least annual) confirmation of their due-diligence processes for audit and approval. They should be at least as good as the due-diligence processes applied by the ship operator. In practice, this is likely to require agreement from all consortium members.

Freight forwarders in turn will need to ensure that these due-diligence processes are equally applied by their own customers which might be freight forwarders as well.

Site visits and inspections

In an age of online communications and data, it is important for booking staff not to underestimate the value of physical site visits and inspections.

Physically seeing a business in day-to-day operation and witnessing cargoes being manufactured, tested and packed into containers can provide far more reassurance in just a few hours compared to checking hundreds of pages of documents. While such trips can be time-consuming and expensive, ship operators should consider factoring them into the due-diligence process. Also, trading organisations and manufacturers tend to be geographically concentrated in each country, so it should be practical to visit several sites in a day.

Ship operators should also consider making random unplanned as well as planned visits to add to their confidence levels.

Use of due diligence agencies and software

Finally, ship operators might also wish to consider employing external agencies or software to carry out KYC due-diligence checks – a key benefit being speed.

As InfoSpectrum says on its website,

'KYC due diligence policies are becoming much more important globally, particularly for businesses involved with international trade. The large size and scale of global distributors and shipping organisations means that commercial risks run high, giving fresh importance to the need to quickly and accurately identify partners. Speed is particularly relevant when transactions and other commercial deadlines call for rapid decisions, often in windows as short as hours.'[1]

1 InfoSpectrum. Providing valuable information for KYC due diligence, InfoSpectrum website. https://infospectrum.net/our-services/kyc-reports (accessed 21 August 2017).

The booking process

It is vital for ship operators to have a robust and reliable container booking process throughout their organisations to keep misdeclared containers off their ships.

Booking deadlines

The starting point for a ship operator's container booking process is to have clearly stated and non-negotiable deadlines for different types of bookings.

For new customers, the need to perform due-diligence KYC checks requires an earlier booking deadline than for existing customers. A booking made via a local booking office may also need to be made earlier to allow time for it to be checked and authorised by the head office, where required.

While it is normal practice to require bookings for dangerous goods to be made earlier than bookings for non-dangerous goods to allow for additional documentation and planning, consideration should also be given to applying the same deadline for non-dangerous goods – which is where the real danger of misdeclared containers lies. This will allow additional time for checking documentation including bills of lading and safety certificates.

Commercial realities mean that it is not always prudent to ban late bookings from existing customers, provided such cases are the exception rather than the rule. However, this flexibility should not be available to new customers or for dangerous goods bookings. Regardless, the same level of checking should be carried out as if the booking had been made on time – even if the ship is already in port.

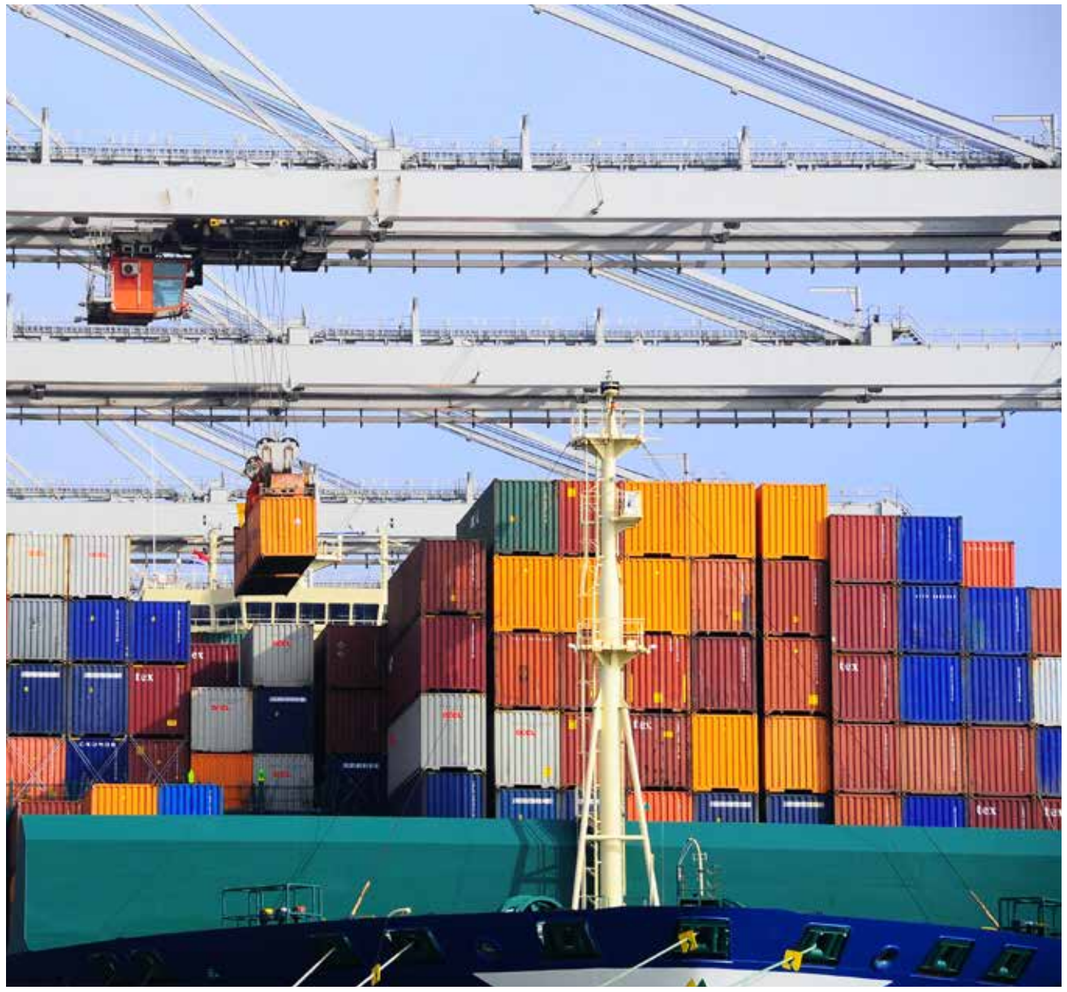
Similarly, late declaration of a non-dangerous cargo should not be allowed except in exceptional circumstances and for existing customers only. If a declaration arrives after the ship has sailed and it proves to be a misdeclaration, there needs to be an agreed on-board procedure for dealing with it – including, if required, returning to port and offloading.

Cargo declaration and booking document checks

Every booking office should have a dangerous goods desk staffed by people who are fully trained in the IMDG code and who have a detailed knowledge of the certification and carriage requirements of each class of dangerous cargo.

If a cargo is declared as an IMDG dangerous good, the booking should automatically be referred to the dangerous goods desk for processing and accepting or rejecting as appropriate. In such cases, the customer (not the booking office) must supply, among other details:

- UN number
- HS code
- IMDG proper shipping name
- hazard class(es)
- packing group
- environmental hazard
- dangerous good declaration
- packing certificate
- independent survey report of packing (for certain UN numbers)
- emergency response procedures
- medical first aid guide.



If the cargo is declared as non-dangerous, but there are red flags, such as:

- there is no HS code or it is a fake code similar to a dangerous cargo (eg starts with 2828)
- it sounds similar to dangerous cargo (eg calcium chloride, whitening powder or water treatment compound, bleaching powder, disinfectant, chloride of lime or chlorinated lime – software can be used to spot these)
- documentation is incomplete, particularly if there is no packing survey report
- the customer does not usually ship this type of cargo or use this route
- it is a new customer and KYC checks are not particularly reassuring.

The safest option is to treat it as a dangerous cargo and refer it to the dangerous goods desk.

Even if the cargo is declared as non-dangerous and there are no red flags, booking office staff need to remain vigilant for fraud and double-check all documentation and certification with a critical eye. All documentation and certification must be in accordance with current rules and regulations, including IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU code).

The process for handling and controlling documents should be in accordance with ISO 9000[1] quality management and quality assurance standards, so that all communications and checks can be fully audited.

Computerised booking systems must also be robust, reliable and secure, with procedures in place for regular software updates and continuing data back-up. The system must be accessible by all booking office staff so that all documentation and communications relating to the booking can be viewed at any time. The system should also include a regularly updated list of all dangerous cargoes and known synonyms – fraudulent or otherwise – together with booking office policy on what to do with such cargoes and what authority level is required to clear the booking.

1 ISO. ISO 9000:2015 Quality management systems – Fundamentals and vocabulary; ISO 9001:2015 - Quality management systems – Requirements; International Organization for Standardization, 2015. https://www.iso.org/iso-9001-quality-management.html (accessed 21 August 2017).

Bill of lading checks

After a booking is accepted, it is vital for booking office staff to ensure that the final bill of lading matches the information on the original booking documentation. Again, this will require a good document control system, whereby the final bill of lading can readily be compared with the original booking confirmation.

A draft bill of lading is usually prepared by the booking office or documentation department after shipping instructions have been received, using the information provided at the time of booking. However, the final bill of lading is prepared by the documentation department usually at the last moment before loading the container on board, which can be quite some time after the shipping instructions were received. It is at this point that a fraudulent shipper can request changes, such as switching the description from an accepted non-dangerous cargo to a dangerous one, or adding the correct cargo description in the 'marks and numbers' box of the bill of lading. The mismatch can also be for declared dangerous cargoes, with a more dangerous or additional one appearing on the final bill of lading.

Any discrepancy between the final bill of lading and the booking information needs to be quickly flagged and escalated for a decision before the cargo is loaded. Ship masters, officers and port agents will need to be involved in the process to ensure that no cargo is loaded or bill of lading signed until the booking office has approved the final bill of lading.

Referral process

The whole booking process must have a clear referral process for escalating decisions. 'Red flags' that require more senior-level judgement or investigation must be clearly identified, including:

- new customer
- new cargo for existing customer
- booking via local office
- declared dangerous cargo
- suspected dangerous cargo
- suspected fraud
- incomplete documentation
- KYC anomalies
- late booking or declaration
- change of documentation
- bill of lading discrepancy.

Again, the decision-making process should accord to ISO 9000 quality management and assurance standards so as to be fully transparent and auditable.

Investigations should include a comprehensive review of the KYC findings and documentation, meetings with the customer to clarify the issue and, where concerns persist, factory site visits and inspections of the cargo being packed into containers.

Use of checking software

Finally, consideration should be given to purchasing 'intelligent' fraud-detection software. One of the best known and developed systems is Hapag-Lloyd's award-winning Cargo Patrol, which the company announced in May 2017 was being made available to other ship operators via IBM.

The system currently detects around 1,200 bookings of shipments each day that require referral and deeper investigation, equivalent to nearly 6% of the total 7.6m TEU transported by the company each year. Of these, more than 3,500 per year are incorrectly declared bookings of dangerous goods and other sensitive commodities. All Hapag-Lloyd incidents are also reported to and shared with other CINS members, helping to raise awareness in the industry of current cargo risks and trends.

All container ship operators should also consider becoming members of CINS, both to benefit from the latest information on attempted fraudulent misdeclarations but also to share their own experiences of such misdeclaration for mutual benefit.

Hapag-Lloyd's Cargo Patrol
Dangerous goods that are declared imprecisely, incorrectly or not at all have the potential to pose a major risk to crews, ships, the environment and other cargo on board. Indeed, a single incorrectly declared container is enough to trigger a catastrophe. This prompted Hapag-Lloyd, which was already one of the market leaders for dangerous goods transports, to start searching early on for a solution. In 2011, the company began developing 'Cargo Patrol', its in-house watchdog software. Thanks to this safety software, the liner shipping company was able to identify 4,231 cases of incorrectly declared dangerous goods last year and prevent their shipment. To do so, Hapag-Lloyd's dangerous goods experts investigated more than 263,000 suspicious cases.

The software ensures a real-time scan of more than 7,000 search terms based on 15,000 rules. The watchdog program uses these rules to automatically identify the suspicious booking. 'This includes bookings in which synonyms or brand names have been used instead of the correct designations,' explains Ken Rohlmann, Senior Director Dangerous Goods at Hapag-Lloyd. 'When hazardous ammonium nitrate is identified as a "growth regulator for plants", our system recognises that.' Moreover, combinations of certain kinds of cargo or countries of origin as well as obviously falsified attached documents are also suspicious. To improve the search, Hapag-Lloyd continually expands and fine-tunes the list of search terms.

With their many years of experience, Hapag-Lloyd's dangerous goods experts have played a key role in programming effective search routines. In fact, when its dangerous goods department was set up almost 50 years ago, it was the first of its kind in the liner shipping industry. What's more, Hapag-Lloyd's internal specifications on dangerous goods have frequently formed the basis for statutory regulations and thereby become compulsory for the entire industry.

Current Hapag-Lloyd projections indicate that roughly 0.059% of all containers are declared harmless each year even though they contain hazardous materials or other sensitive cargo. This is equivalent to over 18,000 containers per year in the Port of Singapore, or more than 5,000 containers each year in Hamburg. 'We have been able to record a continual increase in suspicious cases in recent years,' Rohlmann says. 'For this reason, we share the view of the major P&I clubs that undeclared cargo presents the biggest future risk when it comes to safety in our industry.'

Hapag-Lloyd

Our thanks to Hapag-Lloyd for contributing this article.

Training and incentives

All booking staff and agents should be comprehensively trained in dangerous cargoes, KYC procedures and the booking process to ensure that everyone is aware of what to look out for. They should also be kept up to date on the latest trends and regulations, and incentivised to spot misdeclared cargoes.

Comprehensive approach
Ship operators need to ensure that all booking staff and agents – including those in the head office and regional or port offices, and covering full-time, part-time and temporary staff – are comprehensively trained in the company's booking policies, procedures and systems.

The potentially catastrophic risks of failing to spot a misdeclared cargo are too high to allow an untrained person to have any responsibility in a booking office, even just for a day. As Hapag-Lloyd reports, it detects over 1,200 suspicious bookings each day – if just one of these gets through, a ship operator could face dire consequences.

A comprehensive approach to training will ensure that all staff are much more alert to the risk of misdeclared bookings as well as providing greater flexibility for covering periods of sickness and leave. It will also help with succession planning.

The training should cover all aspects of dangerous cargoes, KYC procedures and booking processes as set out in previous sections of this guide. Ideally, all booking office staff should be capable of working on the dangerous goods desk, the non-dangerous goods desk and the document control department, with regular rotations arranged to ensure they remain familiar with all parts of the booking process. Inclusion of documentation staff is vital as they can ensure that any discrepancies between final and draft bills of lading are checked back to the original booking.

As with all training programmes, the booking office training programme should include defined training curricula for all levels of staff – from new joiners to senior management – together with continuing professional development activities, mentoring, training records and certification.

IMDG code training requirements
IMDG code chapter 1.3 imposes mandatory training provisions for all shore-based personnel who accept and document dangerous goods for shipping, including shipping line operators. This includes having a thorough knowledge of the IMDG code and being trained in documentation requirements and local requirements at loading and discharge ports.

Paragraph 1.3.1.2.1 on general awareness and familiarisation training says:

'1. each person shall be trained in order to be familiar with the general provisions of dangerous goods transport provisions 2. such provisions shall include a description of the classes of dangerous goods; labelling, marking, placarding, packing, stowage, segregation and compatibility provisions; a description of the purpose and content of the dangerous goods transport documents...; and a description of available emergency response documents.'

It also says records of training must be kept by the ship operator and made available to the employee or competent authority on request.

IMDG training needs to be provided to all booking office staff, including the dangerous goods desk, the non-dangerous goods desk, the documentation control department, head office and all regional and port offices. It should include full-time, part-time and temporary staff of all levels of seniority.

Incident reviews and case studies
As part of continuing professional development activities, the ship operator should hold regular reviews of misdeclaration incidents with booking office staff so that system weaknesses can be identified and lessons learnt.

Case studies from other organisations such as CINS should also be studied to keep abreast of the latest developments with dangerous cargoes and fraudulent activity worldwide.

Incentivisation
Consideration should be given to rewarding, recognising or otherwise incentivising booking office staff for their efforts in identifying misdeclarations.

Given the potentially huge cost saving achieved by detecting a misdeclared cargo, it does not seem unreasonable to reward individuals or teams with bonus payments or benefits for their diligence on the ship operator's behalf.

The 'carrot' approach could be complemented with the 'stick', with penalties or warnings for staff who fail to spot an obvious fraud – though care needs to be taken as this could have an overall adverse effect on staff morale and loyalty.

Above all, the booking staff should feel empowered to identify and challenge suspicious bookings and not feel under commercial or peer pressure to accept bookings without sufficient due diligence.

Conclusion

This guide sets out in general terms how container ship operators can do more to protect themselves from the real and serious risk of accepting a booking for a misdeclared dangerous cargo.

It recognises that every company has a different approach to booking as well as different commercial priorities and constraints. The key is to identify and close as many loopholes as possible which could be exploited by fraudulent shippers.

By ensuring all booking office staff and agents know about dangerous cargoes, know their customers and rigorously check all booking documentation, the chances of loading one of the two million misdeclared containers shipped every year will be significantly reduced.

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