A case of mistaken identify



Chris Kenyon-Edwards, Associate at Burgoynes, explains why the risks posed by cargo mis-declaration should not be underestimated

Mis-declared cargo remains one of shipping's most persistent fire risks. When a dangerous product is concealed behind an innocuous description, it may be packed, segregated and stowed without the controls needed for its hazards, and the crew may not have the correct emergency response information.

Recent events involving an explosion during a containership fire investigation, resulting in the loss of a fire investigator colleague, a surveyor and crew member, have brought this into sharp focus.

Recent data published by Allianz indicates that 25% of cargo incidents recorded (both fire and non-fire) related to mis-declared cargo. A significant proportion of marine incidents investigated by Burgoynes have involved cargo mis-declaration. These include:

- Undeclared dangerous goods (DG);
- DG cargoes incorrectly reported as exempted from the IMDG Code;
- Incorrect proper shipping names, UN number, hazard class or packing group;
- Incomplete declarations for mixed consignments; and,
- Mixed consignments including incompatible cargoes.



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Drawing on recent experience, this article highlights some common cargo mis-declarations in container shipping.

However, mis-declaration in bulk and general cargo shipping is also an issue, particularly where chemical cargoes, packaged in flexible intermediate bulk containers (FIBCs), are stowed together with other products, such as steel, plywood, vehicles and project cargoes, raising the risk of leakages and inadvertent chemical reactions.

WHY MIS-DECLARATION MATTERS

The carriage of DG cargoes is governed by the International Maritime Dangerous Goods (IMDG) Code.

Whilst some errors might arise from misunderstanding or misapplication of the IMDG Code, deliberate misdeclaration may be intended to avoid cost arising from freight surcharges, testing, specialist packing, routing restrictions or carrier acceptance procedure.

If the identity of a cargo is concealed, the goods in that consignment may be subjected to inappropriate controls, resulting in:

- incorrect / inappropriate packaging;
- inadequate securing within the container;
- incorrect stowage location;
- failure to segregate incompatible goods; and,
- inadequate temperature control or ventilation.

In the event of an incident, mis-declaration can have dire consequences including incorrect fire-fighting response, generation of flammable atmospheres presenting an explosion risk, pollution, corrosion of the vessel and hazards to the health of both crew and shore personnel.

COMMONLY MIS-DECLARED CARGOES

Charcoal

Charcoal is a carbon-rich material, liable to oxidation and self-heating post manufacture.

Burgoynes has investigated multiple incidents involving natural charcoal, pressed or formed briquettes, and, increasingly, tablets for Arabic water pipes, commonly known as shisha or hookah pipes.

Cargoes have been declared as "hookah tablets", "shisha pipe accessories", "incense accessories", "tablets for water pipe", and "coconut pellets".

The applicable entry for charcoal in the IMDG Code is UN1361 "CARBON of animal or vegetable origin", assigned hazard class 4.2 (liable to spontaneous combustion).

Special Provisions (SP) 223 and 925 previously allowed exemption from the requirements of the Code based on the results of laboratory testing. However, Burgoynes has previously encountered many cargoes that were declared exempt on this basis, but still self-heated and caught fire.

In the latest, 2024 version of the IMDG Code, which entered into force on 1 January 2026, SP223 and SP925 were replaced with SP978, which amongst other things requires that all charcoal cargoes be declared as UN 1361, regardless of any testing conducted to determine its self-heating propensity. This welcome change removes the opportunity for self-heating charcoal products to be exempted based on laboratory testing.



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Calcium hypochlorite

Calcium hypochlorite is a powerful oxidising agent, commonly used for water chlorination. It has three different listings in the IMDG Code (UN3485, UN3486 and UN3487) all assigned hazard class 5.1 (oxidiser) with subsidiary hazard class 8 (corrosive).

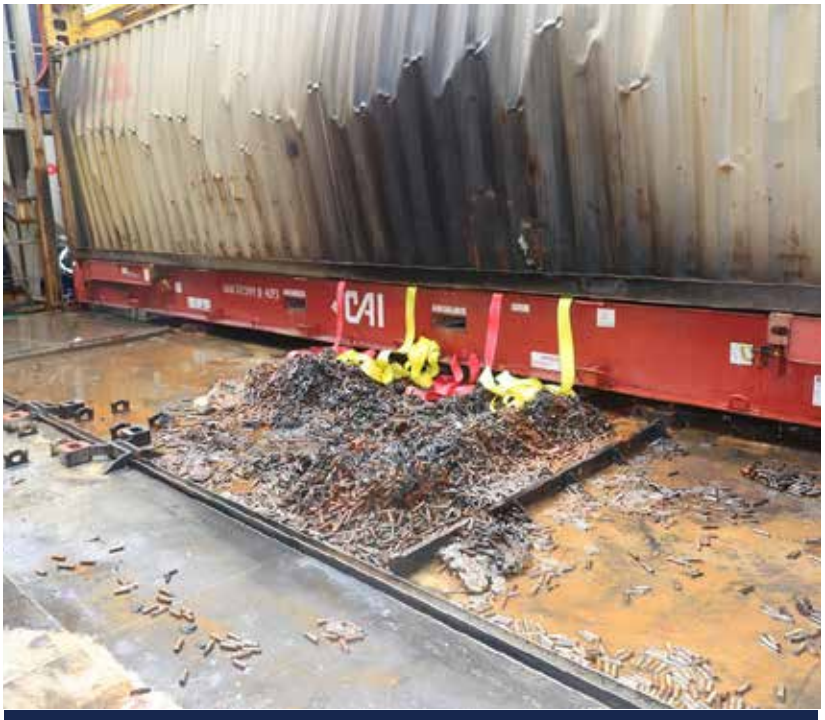
Calcium hypochlorite is somewhat thermally-unstable, and liable to self-accelerating thermal decomposition, releasing heat and gases, potentially resulting in fires and explosions. Accordingly, the IMDG Code specifies that containers should be stowed on deck, protected from sunlight and other sources of heat.

In some incidents involving calcium hypochlorite the cargo was mis-declared, resulting in containers having been stowed adjacent to heated fuel oil tanks, engine room bulkheads, or open yards exposed to sunlight, leading to thermal decomposition.

Often, calcium hypochlorite is mis-declared as similar but innocuous chemicals such as "calcium chloride"). Other names encountered include "chlorine of lime", "bleaching agent", "water purifier", and "swimming pool cleaner".

Lithium batteries

Lithium-ion cells can enter thermal runaway when internal



There has been a notable increase in lithium-ion battery-related maritime incidents in recent years. The trend is driven in part by the surge in electric vehicle (EV) shipments, many of which are transported on Ro-Ro vessels.

heat generation becomes self-sustaining. The process may be triggered by an internal defect, incorrect charging, external heating or short-circuiting, crushing, penetration or other damage.

It can release intense heat, flammable and toxic gases and result in the ejection of burning material. If gases accumulate in an enclosed space, ignition may produce a fire or explosion.

The IMDG Code specifies that lithium-ion batteries are considered a DG cargo, with a UN number determined by whether they are packaged with / contained within equipment.

The IMDG Code includes SP188, which sets out a series of requirements that, when met, exempt these cargoes from other provisions of the IMDG Code. Cargoes exempted under SP188 are usually accompanied by a report or declaration stating that the cargo is compliant with SP188.

Recent experience has shown that, in many instances, cargo has been incorrectly declared to be compliant with SP188. For example, declarations are provided for a different type of battery or packaging, or for individual cells when the cargo is multi-cell power banks. Carriers should carefully review any exemption documents supplied and request photographs of the cargo as packaged.

However, fires can still occur even where batteries have been correctly exempted under SP188 or properly declared as dangerous goods. Compliance with SP188 does not, therefore, eliminate the underlying fire risk associated with the carriage of lithium-ion batteries. In our view, SP188 should be reviewed as a matter of urgency, in a manner similar to the recent reconsideration of SP978.

In our experience, lithium-ion batteries are often simply mis-declared using an obscure description such as "electronic accessories", "static converters" or "electric accumulators".

Batteries are often included in mixed consignments of goods, where only one, or a few, of the individual consignments are declared on the cargo documentation ("clothing and shoes" in one recent case).

We also have experience of containers of semi-knocked down (SKD – partially disassembled) consumer goods containing packages of batteries, such as "emergency light fittings" and "parts of lamp".

A review of container packing lists or customs documentation can often reveal the presence of undeclared lithium-ion batteries.

For example, we have seen documents quoting the Harmonised System Codes for lithium-ion batteries (85076000) alongside innocuous entries such as "electronic accessories". A simple review of such documents for the relevant HS code could assist in identifying potentially mis-declared batteries before they are loaded.

GAS MEASUREMENTS

In the event of an incident involving mis-declared cargo, the use of gas monitoring equipment can provide valuable information to assist in identifying the hazards presented to incident responders, particularly where incidents occur in enclosed spaces, such as below deck.

Although the nature of the cargo may not be apparent from documentation or external inspection, many hazardous processes (including leakage, decomposition, self-heating, battery failure and fire) can produce characteristic gases or vapours.

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Monitoring the atmosphere within a cargo hold for oxygen depletion, flammable gases, carbon monoxide and other toxic gases can, in conjunction with other information, assist in assessing the severity of the risk and identifying the likely nature of the problem cargo.

Gas-monitoring results must nevertheless be interpreted by suitably trained experts, with due regard to the sampling location, instrument calibration and measurement ranges, sensor cross-sensitivities, and the possibility of false readings.

Used as part of a structured scientific assessment, gas monitoring can help identify suspect containers and, consequently, establish appropriate precautions and determine how the incident can be managed as safely as possible.

SUMMARY

Cargo mis-declaration remains a serious and unresolved maritime safety problem. This problem is likely to continue where there remain financial or administrative incentives for shippers to mis-declare cargo.

Mis-declaration may not be the immediate initiating event of the incidents that we investigate, but it often prevents safeguards appropriate to the actual cargo being implemented. Ensuing deficiencies in classification, packaging, segregation, stowage and emergency information can increase:

- the likelihood and severity of an incident;
- the attendant risk to life of those aboard the vessel;
- financial losses incurred by stakeholders; and,
- the resulting damage to the environment.

Recent updates to the IMDG Code, such as the stricter requirements for charcoal, assist by closing loopholes that allow potential mis-declaration, but this is not a complete solution.

Regulation does not result in the detection of vague or deliberately false cargo declarations. Instead, shippers must be required to present, and relevant stakeholders should demand, accurate information. Furthermore, carriers, forwarders, terminals and vessel operators should scrutinise cargo declarations, container packing lists, exemption documents and proper safety data sheets.

Effective screening need not begin with sophisticated technology. A comparison of the documentation already available may reveal inconsistencies, which should in turn prompt closer scrutiny and requests for clarification or additional documentation. Through such scrutiny, there is potential to mitigate the risk presented by mis-declared cargo.