



## THE LAW & PRACTICE OF TRANSPORTING DANGEROUS GOODS BY SEA IN MALAYSIA

Dangerous or hazardous goods require safe handling. This is critical to ensure the safety of lives, protect the environment, and preserve infrastructure. Nonetheless, history has shown that accidents involving dangerous goods and chemicals can have catastrophic consequences.

The 2020 Beirut Explosion in Lebanon is a prime example of a devastating incident that resulted in enormous economic and human losses.

This unprecedented tragedy was a consequence of the explosion of a large amount of ammonium nitrate which resulted in at least 218 deaths, injured 7,000 others, and caused approximately 4.6 billion USD in property damage. The impact of this tragedy transcends the shores of Beirut, which has not fully recovered until now.[1]

A similar tragic event that happened in Malaysia was the terrible explosion of dangerous chemicals stowed on deck of the vessel Ing Hua Fu No 9 which resulted in the sinking and loss of the carrying vessel.[2]

These incidents are vivid examples of the possible destructive impact that can result from the mishandling of dangerous goods and chemicals, which serve as a stark reminder of the need for rigorous regulations and the importance of proper management.

This article will cover the law and practices governing the transportation of dangerous goods by sea in Malaysia. This includes the aspects of classification and identification of dangerous goods, packaging requirements, labelling and marking, stowage and segregation, securing cargo transport unit, and packing certificate.

## **IMDG Code**

The International Maritime Dangerous Goods (IMDG) Code is an international regulation that governs the transportation of dangerous goods by sea, it is also one of the main guidelines that has been incorporated by the Port Klang Authority under the Port Klang Authority (Scale of Rates, Dues and Charges) By-Laws 2012.[3]

The IMDG Code was designed and constantly updated by the International Maritime Organization (IMO) to comply with the objective of protecting life, preventing marine pollution and facilitating the free movement of dangerous goods.[4] The parties that have a duty under the IMDG code will include, the consignor, forklift operators and cargo handlers, cargo transport unit packers, shippers and forwarders as well as shipping line booking agents. Goods covered by the IMDG Code have separate declaration procedures and are kept in designated areas of Ports. Designated labels denote the category of the goods and required precautions during handling and method of storage and transport[5].

## **Classification & Identification**

Dangerous goods are defined as any articles or substances that can pose an unreasonable risk to health, safety, and property during transportation.[6] These dangerous goods could be in the form of solid, liquid or gas and could consist of a broad range of materials with different levels of hazards.

These dangerous goods are classified and identified under the IMDG code in 9 classes based on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).[7]

| <b>Classes</b> | <b>Types of Dangerous Goodes</b>               |
|----------------|--|
| Class 1        | Explosive                                      |
| Class 2        | Gases  |
| Class 3        | Flammable Liquids                              |
| Class 4        | Flammable Solids or Substances                 |
| Class 5        | Oxidizing Substances and Organic Peroxides     |
| Class 6        | Toxic and Infectious Substances                |
| Class 7        | Radioactive Substances                         |
| Class 8        | Corrosive Substances                           |
| Class 9        | Miscellaneous Dangerous Substances and Article |

Based on the statistics released by the Port Klang Authority, the amount of dangerous goods handled by Port Klang in 2021 is considerable.

Port Klang manages a total of 177,622 pieces of dangerous goods, of which, IMO Class 9 Miscellaneous Dangerous Substances has the largest number with a total of 59,023, while IMO Class 7 Radioactive Substances has the lowest number with a total of 9. Notably, Port Klang also handled 793 pieces of IMO Class 1 Explosive items.[9]

## **Packaging Requirements**

Under the IMDG code, when it comes to the packaging of dangerous goods, the consignor has a legal duty to ensure that the dangerous goods are well-packed. A consignor, usually being the party that initiates the shipment or provides the goods, in which most cases are the manufacturer, but they could also be traders that purchased goods for resale or even retailers.[10]

Comprehensive instructions on the packaging of dangerous goods are set out in Chapter 4 of the IMDG code.

While the packaging instruction under this provision may vary according to the forms, types, and classes of the dangerous goods, some of the general elements for safe packaging will include the use of high-quality packaging that can protect the goods from shocks and rough handling during loading; shield the goods from external factors such as the change in pressure, humidity, or temperature; does not significantly weaken by or react with the dangerous goods; and has a secure closure mechanism that can prevent accidental spillage and opening.[11]

## **Labelling & Marking**

Furthermore, the consignor is also responsible for ensuring that suitable labels, warnings, and markings are affixed to the packaging of dangerous items in accordance with the IMDG code. These labels and markings will clearly identify the classes and types of dangerous items, allowing everyone in the shipping line to be aware of the hazards they are carrying and risks arising from those consignments. These marks and labels also serve as instructions on how to handle, store, and transport these dangerous goods securely.[12]

## **Stowage and Segregation**

The instructions and requirements on stowage and segregation are set out under Chapter 7 of the IMDG code.[13] Stowage is the proper placement of dangerous goods on board a

vessel to ensure they are safely transported.[14] Whereas segregation is the process of keeping incompatible dangerous goods apart from one another to prevent dangerous reactions between them during transportation, for example, the release of heat or combustible gases that could lead to fire or explosion, or the emission of hazardous, toxic, or corrosive vapours.[15]

Whether the instructions on stowage and segregation processes are properly performed and conducted is an essential element which the Court will take into account when determining liability.

In ***Northern Shipping Co v Deutsche Seereederei GmbH and others [2000] All ER (D) 281***, the shippers were found to be liable for failing to comply with the stowage requirement where the isopentane, a volatile and flammable liquid was stored under the deck of the Vessel. The non-compliance had caused the explosion of the isopentane which the Vessel eventually sunk due to the damage caused by the explosion.[16]

Another example is the case of ***Ing HuaFu Marine Line Sdn Bhd v Vitachem (M) Sdn Bhd & Anor***[17], the shipper was also found to be liable for the damage caused to the vessel as they misdeclared the cargo as innocuous 'Agrochemicals' and have failed to segregate sodium chlorate, a strong oxidizing agent, with other incompatible chemicals. There was also no evidence before the court to establish whether the pallets were in fact completely or securely sealed so as to preclude any possibility of leaking, spilling or intermixing.[18]

### **Securing Cargo in the Cargo Transport Unit**

Before the packed dangerous products are carried into a container or any cargo transport unit, they must be thoroughly scrutinised and inspected to avoid causing any damage. The criteria for securing cargo in a container are the same for both dangerous and non-dangerous goods, where the goods must be stored in a way that prevents any damage during the course of transportation when subjected to acceleration or sudden impact.[19]

When storing dangerous and non-dangerous goods in the same cargo transport unit, dangerous goods should be kept as near to the door as possible, with their labels facing the door. Also, if both liquids and solid goods are packed together, the solid goods should be stowed above the drums filled with liquids as this will reduce the risk of any dangerous reactions. [20]

### **Container Packing Certificate**

Once the dangerous cargo has been packed into the container or any cargo transport unit,

a container packing certificate (CPC) must be signed by those who have direct control over the packing operation.

CPC is a legal declaration in which the signature on it indicates that the responsible individual or expert has reviewed the packaging procedures, verified that the packaging complies with the IMDG Code requirements, and confirmed that the dangerous goods are properly secured for transportation by sea.[21]

One of the main objectives of the IMDG is to promote global safety standards for the transportation of dangerous goods. Compliance with the IMDG code is an universal practice crucial in manufacturing, storage and shipping Malaysia, to prevent accidents and reduce hazards.

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  2. Ing Hua Fu Marine Line Sdn Bhd v Vitachem (M) Sdn Bhd & Anor [2013] 9 MLJ 825. The Partner and Head of the Admiralty & Shipping Practice Group Mr Philip Teoh had acted for the Plaintiff (the Shipowner).
  3. Port Klang Authority (Scale of Rates, Dues and Charges) By-Laws 2012.
  4. International Maritime Organization, 'The International Maritime Dangerous Goods (IMDG) Code' <<https://www.imo.org/en>> accessed 19 August 2023.
  5. See Ing Hua Fu Marine Line Sdn Bhd v Vitachem (M) Sdn Bhd & Anor supra and below.
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  10. Richard Masters, 'Consignors' and CTU packers' responsibilities under the IMDG Code' <https://app.croneri.co.uk/feature-articles/consignors-and-ctu-packers-responsibilities-under-imdg-code> accessed 20 August 2023.
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  13. IMO (n 9) 371-431.
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  15. Canadian Centre for Occupational Health and Safety, Transportation of Dangerous Goods (TDG) <[https://www.ccohs.ca/oshanswers/legisl/tdg/tdg\\_segregation.html](https://www.ccohs.ca/oshanswers/legisl/tdg/tdg_segregation.html)> accessed 20 August 2023.

16. Northern Shipping Co v Deutsche Seereederei GmbH and others [2000] All ER (D) 281.
17. Note 2.
18. Ing Hua Fu Marine Line Sdn Bhd v Vitachem (M) Sdn Bhd & Anor [2013] 9 MLJ 82.
19. Shashi Kallada, 'Packing of Dangerous Goods in Containers'  
<<https://shashikallada.com/packing-of-dangerous-goods-in-containers/>>accessed 21 August 2023.
20. Thomas Miller, 'Book it right and pack it tight'<<https://www.iims.org.uk/wp-content/uploads/2018/02/Guidance-on-packing-dangerous-goods-for-carriage-by-sea.pdf>> accessed 22 August 2023.
21. Thomas Miller (n 17) 65.

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