

# MARPOL Annex III and Amendment 37-14 to the IMDG code



**Akshat Arora**  
**Marine Surveyor**  
+65 6506 2809  
akshat.arora@ctplc.com

The above regulations relate to preventing and minimising the pollution of the marine environment by harmful substances in packaged forms.

This article aims to provide guidance on the requirements of MARPOL Annex III with reference to relevant IMDG code text and its latest amendments. It also provides information on liability and compensation for damage in connection with the carriage of hazardous and noxious substances.

## What is MARPOL Annex III?

Annex III of MARPOL, which came into force worldwide on 1 July 1992, aims to prevent or minimise pollution of the marine environment by **harmful substances in packaged forms**. This includes freight containers, portable tanks or road and rail tank wagons, or other forms of containment specified in the schedule for harmful substances in the IMDG code.

Annex III therefore sets out requirements for the packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances.

As defined under MARPOL Annex III Regulation 1.1, 'harmful substances' are those substances that are identified as 'marine pollutants' in the International Maritime Dangerous Goods (IMDG) code or that meet the criteria in the appendix of the Annex. 'Packaged form' is defined as 'the forms of containment' specified for harmful substances in the IMDG code. Regulation 1(2) of Annex III prohibits the carriage of harmful substances except in accordance with the provisions of Annex III. This is also stated in the IMDG code.

'Harmful substances' means "those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG code) or which meet the criteria in the appendix of Annex III".

'Packaged form' is defined as "the forms of containment specified for harmful substances in the IMDG code".

Unlike Annex II (bulk chemicals), there are no pollution categories in Annex III. Such categorisation is made in the IMDG code, which must therefore also be considered when consulting MARPOL Annex III.

The revised MARPOL Annex III regulations entered into force on 1 January 2014 in order for changes to the Annex to coincide with the update of the IMDG code.

## What is the IMDG code?

Dangerous goods that are carried in packaged form, in solid form or in bulk are regulated by Part A of SOLAS Chapter VII: carriage of dangerous goods, also known as the IMDG code.

The IMDG code was initially adopted in 1965 as a recommendatory instrument and got its mandatory status under the umbrella of the SOLAS Convention (Chapter VII) from 1 January 2004. Since its introduction, the code has undergone many changes, both in format and content, in order to keep up with the rapid expansion of the shipping industry.

The latest amendment (37-14), which is mandatory from 1 January 2016, includes revisions to various sections of the code and to transport requirements for specific substances. It was adopted by the IMO's Maritime Safety Committee (MSC) at its 93rd session in May 2014.

**Classification and Identification of marine pollutants & environmentally hazardous substances (aquatic environment)**

Many substances, articles and materials falling under IMDG classes 1 to 9 have the potential to cause pollution to the marine environment, because they:

- are hazardous to aquatic life (marine flora and fauna);
- impair the taste of seafood; or
- accumulate pollutants in aquatic organisms.

The IMDG code establishes regulations for the transportation of marine pollutants and environmentally hazardous substances (aquatic environment) in Chapters 2.10 and 2.9.3, respectively. Marine pollutants, based on the MARPOL convention, are noted with the letter 'P' in column 4 (headed with MP) of the Dangerous Goods List. However, the absence of the letter 'P' or the presence of a dash in column 4 does not preclude classification of the material as a marine pollutant when deemed necessary.

Marine pollutants should be transported under the appropriate entry according to their properties if they fall within the criteria of any of the classes 1 to 8. If they do not fall within the criteria of any of these classes, they should be transported under the entry: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., UN 3077 or ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., UN 3082, as appropriate, unless there is a specific entry in class 9.

Environmentally hazardous substances (aquatic environment) criteria are based on the *Globally Harmonized System of Classification and Labelling of Chemicals (GHS)* standards established by the United Nations. These criteria are also listed in the appendix to Annex III of MARPOL and classify the substances and mixtures based on their acute and chronic toxicity to fish, crustaceans, and algae or other aquatic plants, bioaccumulation, and environmental degradation data and calculations.



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Are environmentally hazardous substances (UN3077 & UN3082) always a marine pollutant?

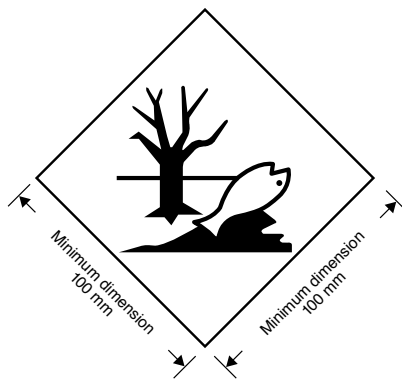
- If a substance meets the provisions of section 2.9.3 of the IMDG code, then it is a marine pollutant.
- If a substance does not meet the provisions of section 2.9.3 of the IMDG code, but is transported under UN3077 or UN3082 then it is not a marine pollutant.
- If a substance is identified as a marine pollutant by the IMDG code but no longer meets the provisions of classification as per section 2.9.3 of the IMDG code, then it can be transported as a non-marine pollutant with the approval of a competent authority.
- Basel waste which does not meet any criteria of the IMDG code can also be transported under UN3077 or UN3082.

## Marking and labelling

Marine pollutants must be specially packaged, labelled and stowed on board to prevent their release into the marine environment. Special labelling also enables pollutants to be identified and separated from other cargoes during salvage operations after an accident.

The marking of packages, containers and tanks is required through Regulation 3 of MARPOL Annex III. Packages must be marked on one side, intermediate bulk containers (IBCs) on two opposing sides, and containers and tanks on all four sides. The IMDG code 37-14 has amended the requirement of marine pollutant marking through section 5.2.1.6.3 as follows:

## Marine Pollutant Mark



*"The marking must be in the form of a square set at an angle of 45° (diamond-shaped). The symbol (fish and tree) shall be black on white or suitable contrasting background. The minimum dimensions must be 100mm x 100mm and the minimum width of line forming the diamond shall be 2mm. If the size of the package so requires, the dimensions/line thickness may be reduced, provided the marking remains clearly visible. Where dimensions are not specified, all features shall be in approximate proportion to those shown."*

*The labelling provisions of 5.2.2 apply in addition to any requirement for packages to bear the marine pollutant mark.*

*The provisions of section 5.2.1.6.3 of IMDG code (Amendment 36-12) continue to apply until 31 December 2016."*

Any packaged cargo transported at sea which poses a threat to people, other living organisms, property or the environment should be listed on the manifest as "dangerous goods" and should display the appropriate hazard labels. Any packaged cargo that represents a threat to the marine environment should also display the "marine pollutant" label.

## Stowage

According to MARPOL Annex III Regulation 4, whenever a marine pollutant is offered for transport by sea, the document must mention the words 'marine pollutant' after the description of dangerous goods. This can be supplemented with the words 'environmentally hazardous'. Also, if the cargo is under a generic or N.O.S. (not otherwise specified) entry, then the proper shipping name shall be supplemented with the technical name.

Every ship must have a special list, manifest or stowage plan showing the stowage location of marine pollutants loaded at each port. This must be revised at every load and discharge port. These two documents must be handed to the person or organisation designated by the port authority.

An HNS is defined as “any substance other than oil which, if introduced into the marine environment, is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea”.

To prevent containers falling into the sea, carriers loading marine pollutant packages or containers/ tanks containing marine pollutants normally prefer under-deck stowage, when permitted, or will stow only on well-protected decks or inboard in sheltered areas of exposed decks (Regulation 5 – MARPOL Annex III).

The IMDG code 37-14 gives relaxation from many requirements when marine pollutants that do not have the properties of any other classes are packaged in single or combination packaging containing a net quantity per single or inner packaging of 5 litres or less for liquids, or having a net mass per single or inner packaging of 5 kg or less for solids.

#### **Hazardous and noxious substances**

Noxious liquid substances (MARPOL Annex II) and harmful substances carried by sea in packaged form (MARPOL Annex III) also fall under the definition of a ‘hazardous and noxious substance’ (HNS). Issues related to the preparedness for and response to incidents of chemical pollution are covered by the IMO OPRC-HNS Protocol 2000.

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HNSs could be accidentally released into the sea in a number of ways, such as containers falling overboard during severe weather or rough seas, or due to inadequately secured cargo.

Marine pollution caused by an HNS differs from oil pollution in that it could have a range of consequences. Even low doses of HNSs can have sublethal effects on marine organisms, producing impairments that may be detrimental to individual organisms, species, populations or marine communities over the longer term.

It is the physical characteristics of the HNS, once it is released into the environment, which determines whether the substance’s flammable, reactive, toxic, explosive, corrosive properties will have an impact. Some materials behave in a similar way to oil spills (not least because a number are derived from petroleum products), but others react differently, such as forming gases, evaporating into the atmosphere, dissolving into sea water, igniting, etc.

Liability and compensation for incidents involving chemical pollution are covered by the HNS Convention 2010, which at the time of writing is yet to enter into force.

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## Summary

- Ships carrying dangerous goods in packaged form need, according to SOLAS II-2/19 and VII, a document of compliance issued by the flag state administration. This document of compliance states the dangerous goods that the ship is certified to carry.
- The pollution caused by container ships could be as a result of loss of harmful packaged goods overboard (marine pollutants) or from hold bilges contaminated with cargo/oil seepage.
- Hold bilges must be sounded daily to check if any oil or cargo effluent exists. If the vessel is in port, bilges should be transferred to the bilge holding tank (where fitted). Pumping out of bilges must only be done after checking and verifying the uncontaminated water and in accordance with MARPOL requirements.
- If any marine pollutant (as per IMDG) leaks from a container into the hold bilges or on deck, it must be collected, taking due precautions as per Emergency Schedule (EMS), and disposed of ashore. Accidental loss overboard of containers must be notified to the shore authorities, including the nature of the contents, especially if they are a marine pollutant.
- Jettisoning of harmful substances is prohibited except when it is needed to secure the safety of life on board vessels or for securing the safety of the vessel.

