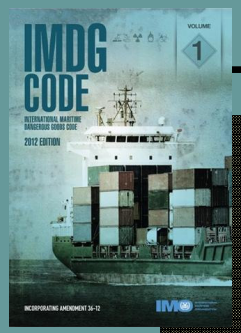


# An Introduction to the IMDG Code



**Welcome to this free introduction to the IMDG Code from Exis Technologies.**

**This provides a brief overview of the IMDG code structure and requirements.**

**Where applicable, screens are referenced to the relevant IMDG Code clause.**




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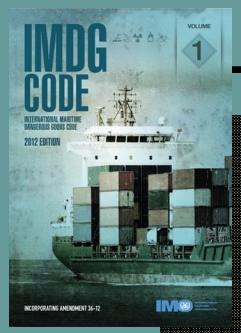


# An Introduction to the IMDG Code



**The objective of the International Maritime Dangerous Goods (IMDG) Code is to:**

- Enhance the safe transport of dangerous goods
- Protect the marine environment
- Facilitate the free unrestricted movement of dangerous goods

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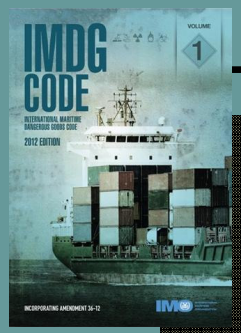


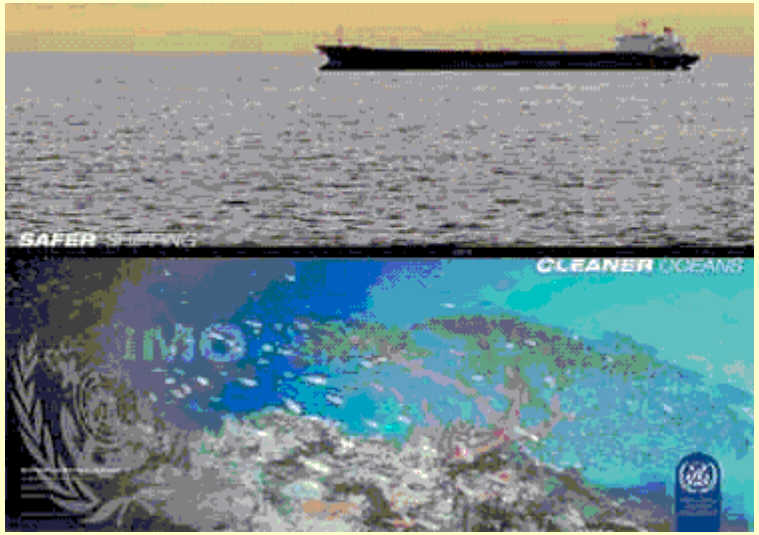

# The International Legal Framework



## The International Maritime Organization (IMO)

The IMO is a United Nations specialised agency which has developed international legislation dealing with two key issues for the maritime industry:

- The safety of life at sea
- Prevention of pollution from ships

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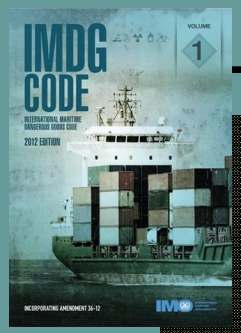
IMDG Code reference: 1.1.1




# The International Legal Framework



## The International Maritime Organization (IMO)

The IMO has developed two international conventions to address these issues:

- The SOLAS Convention (covering safety of life at sea)
- The MARPOL Convention (covering pollution prevention)

To supplement the principles laid down in the SOLAS and MARPOL Conventions, the IMO developed the International Maritime Dangerous Goods (IMDG) Code.

The IMDG code contains detailed technical specifications to enable dangerous goods to be transported safely by sea.

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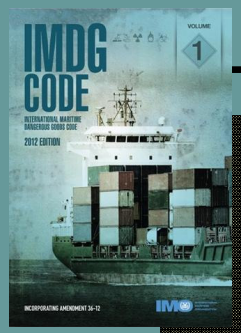
IMDG Code reference: 1.1.1

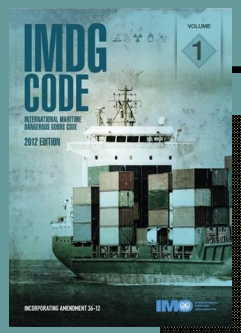



# Principles of the IMDG Code



**The IMDG Code is based on an internationally agreed system which:**

- Groups dangerous goods together based on the hazards they present in transport (classification).
- Contains the dangerous goods in packagings/tanks which are of appropriate strength and which will prevent the goods escaping.
- Uses hazard warning labels and other identifying marks to identify dangerous goods in transport.
- Requires standard documentation to be provided when dangerous goods are being transported.
- Lays down principles for ensuring that dangerous goods which will react dangerously together are kept apart.
- Lays down principles for where to place dangerous goods on board ship to ensure safe transport.




# Principles of the IMDG Code



## Updating the IMDG Code

The IMDG Code is evolving and is updated every two years to take account of:

- New dangerous goods which have to be included.
- New technology and methods of working with or handling dangerous goods.
- Safety concerns which arise as a result of experience.

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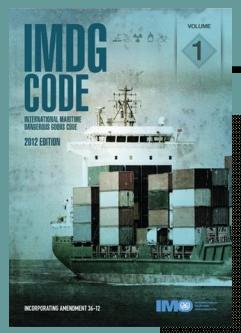



# Principles of the IMDG Code



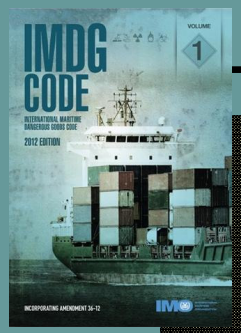
## Updating the IMDG Code

Each version of the Code is given an Amendment number to signify how many times it has been updated. This number appears at the bottom of each page together with the year of the Amendment.

The current Amendment is 35-10 which will remain in force until December 31st 2013.

However, from 1st January 2013 Amendment 36-12 can also be used because 2013 is a transition year which allows the use of both Amendments in tandem. You can get a preview of the changes in Amendment 36-12 by going to: www.imdgsupport.com

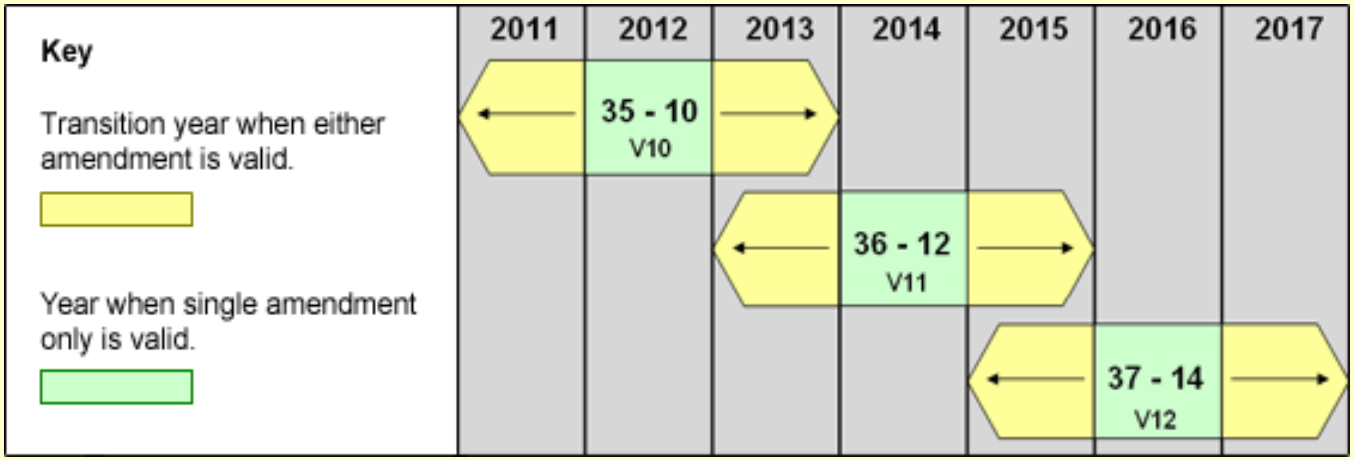
Let's look at this Amendment process further.




# Principles of the IMDG Code



## The Amendment Cycle of the IMDG Code




- Each Amendment is valid for up to three years.
- There are alternating years for implementation.
- In January of the yellow years, a new Amendment is published and can be used immediately, subject to the timing of National Competent Authority adoption.
- During the yellow years, the preceding Amendment can also be used, so it is a transition year.
- In the green years, only the current Amendment may be used.

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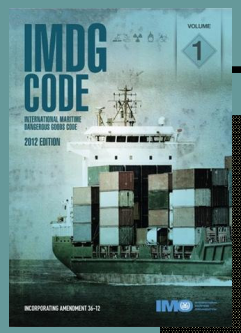



# Layout of the IMDG Code



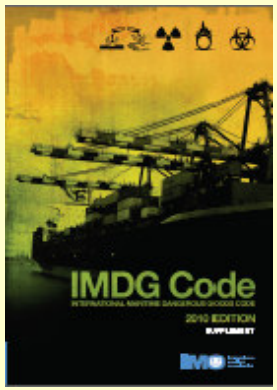
**The Code comprises 7 parts.**

It is presented in two books; Volume 1 and Volume 2.

It is necessary to use both books to obtain the required information when shipping dangerous goods by sea.

The Code also contains a Supplement.

*Please note: there will not be a 2012 Edition of the IMDG Code Supplement. Instead you will receive a copy of the 2010 Edition plus a two page document of the changes to the 2010 Edition.*



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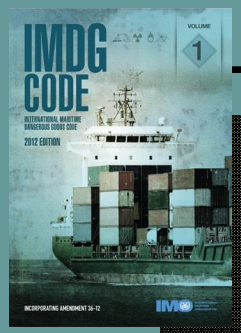


# Layout of the IMDG Code



**Volume 1** (Parts 1-2 & 4-7 of the Code) comprises:

**Part 1** General provisions, definitions and training

**Part 2** Classification

**Part 4** Packing and tank provisions

**Part 5** Consignment procedures

**Part 6** Provisions for the construction and testing of pressure receptacles, aerosol dispensers, small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas

**Part 7** Requirements concerning transport operations

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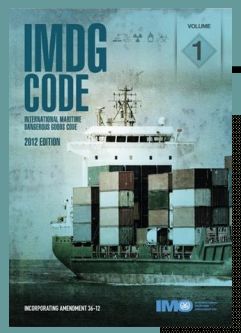


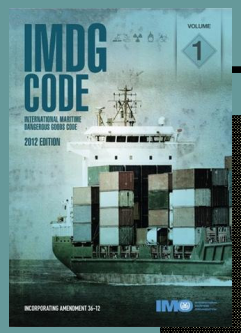

# Layout of the IMDG Code



**Volume 2** (Part 3 and the Appendices of the Code) comprises:

| | |
|---|---|
| **Part 3** | Dangerous Goods List (DGL), Special Provisions Limited and Excepted Quantities Exceptions |
| **Appendix A** | List of Generic and N.O.S. (Not Otherwise Specified) Proper Shipping Names |
| **Appendix B** | Glossary of terms |

**Alphabetical Index**

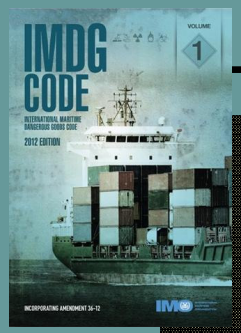



# Layout of the IMDG Code Supplement



The supplement contains the following texts related to the Code:

- Emergency Response Procedures for Ships Carrying Dangerous Goods
- Medical First Aid Guide
- Reporting Procedures
- IMO/ILO/ECE Guidelines for Packing Cargo Transport Units
- Safe Use of Pesticides in Ships, Cargo Holds and CTUs
- International Code for the Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships




# IMDG Code Classification System



The purpose of the IMDG Code's classification system is:

- To distinguish between goods which are considered to be dangerous for transport and those which are not.
- To identify the dangers which are presented by dangerous goods in transport.
- To ensure that the correct measure are taken to enable these goods to be transported safely without risk to persons or property.

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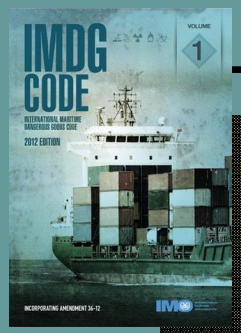
IMDG Code reference: 2.0




# IMDG Code Classification System



Dangerous goods are classified into 9 classes according to properties. The way in which different classes of dangerous goods are handled in transport will depend upon these properties and hazards, for example:

- The type of packaging that can be used.
- What classes of dangerous goods can be transported together in freight containers.
- Where the goods can be stored within the port and on the ship.

Continued...

EXIS TECHNOLOGIES

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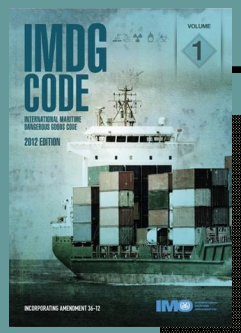
**IMDG Code reference: 2.0**




# IMDG Code Classification System



## The 9 classes:

| | |
|---|---|
| **Class 1** | Explosives |
| **Class 2** | Gases |
| **Class 3** | Flammable liquids |
| **Class 4** | Flammable solids |
| **Class 5** | Oxidizing substances and organic peroxides |
| **Class 6** | Toxic and infectious substances |
| **Class 7** | Radioactive material |
| **Class 8** | Corrosive substances |
| **Class 9** | Miscellaneous dangerous substances and articles |

These 9 hazard classes have been established internationally by a United Nations (UN) committee to ensure that all modes of transport (road, rail, air and sea) classify dangerous goods in the same way.

Continued...

**IMDG Code reference: 2.0**

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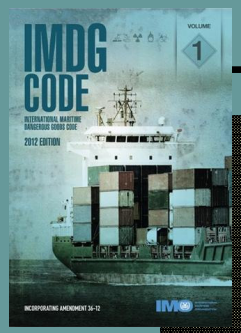



# Identification of Dangerous Goods



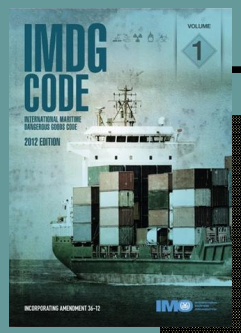
## PSN and UN Number

Within each of the 9 hazard classes dangerous goods are uniquely identified by two pieces of information:

- A four-digit number known as the UN Number which is preceded by the letters UN.
- The corresponding Proper Shipping Name (PSN).

For example, kerosene is identified in the IMDG Code by its UN Number UN 1223 and the PSN Kerosene.

Continued...




# Identification of Dangerous Goods



## PSN and UN Number

Together the UN Number and PSN uniquely identify dangerous goods to:

- enable rapid and precise identification during transport to ensure the correct handling, stowage, segregation etc, and
- in the event of an emergency, ensure that the correct procedures are followed.

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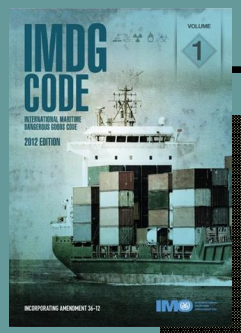
IMDG Code reference: 2.0.2




# Identification of Dangerous Goods



## Hazard labels

Each of the hazard classes are also identified by labels:


IMDG Code reference: 5.2.2.2.2

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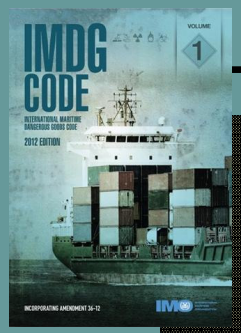


# Understanding the Dangerous Goods List (DGL)



- The DGL is presented across 2 pages of the IMDG Code and is divided into 18 columns for each individual dangerous good listed.
- Much of the information contained in the DGL is coded to make it easier to present in a table.
- The DGL is arranged in UN Number order; column 1 and column 18 contains the UN Number.
- To look up an entry, you just need the UN Number.
- However, dangerous goods can also be searched using the PSN.
- Therefore, if you do not have the UN Number but have the PSN, you can find its associated UN Number by looking at the alphabetical index at the back of Volume 2.

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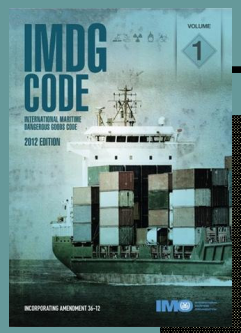
**IMDG Code reference: 3.2**




# Understanding the Dangerous Goods List (DGL)



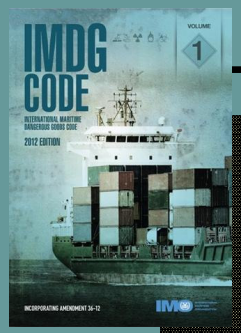
**Column 1 – UN Number**
Contains the United Nations Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods (UN List).

**Column 2 – Proper Shipping Name (PSN)**
Contains the Proper Shipping Names in upper case characters which may be followed by additional descriptive text in lower-case characters.

**Column 3 – Class or Division**
Contains the class and, in the case of class 1, the division and compatibility group.

**Column 4 – Subsidiary Risk(s)**
Contains the class number(s) of any subsidiary risk(s). This column also identifies if dangerous goods are marine pollutants by showing the letter 'P':

Continued…




# Understanding the Dangerous Goods List (DGL)



**Column 5 – Packing Group**
Contains the packing group number (i.e. I, II or III) where assigned to the substance or article.

**Column 6 – Special Provisions**
Contains a number referring to any special provision(s) indicated in chapter 3.3.

**Column 7a – Limited Quantities**
Provides the maximum quantity per inner packaging.

**Column 7b – Excepted Quantities**
Provides a code which can be referenced to determine the maximum quantity per inner and outer packaging.

**Column 8 – Packing Instructions**
Contains packing instructions for the transport of substances and articles.

Continued…

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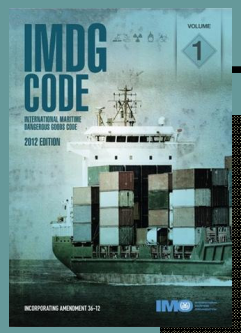
**IMDG Code reference: 3.2**




# Understanding the Dangerous Goods List (DGL)



**Column 9 – Special Packing Provisions**
Contains special packing provisions.

**Column 10 – IBC Packing Instructions**
Contains IBC instructions which indicate the type of IBC that can be used for the transport.

**Column 11 – IBC Special Provisions**
Refers to special packing provisions applicable to the use of packing instructions bearing the code 'IBC' in 4.1.4.2.

**Column 12 – IMO Tank Instructions**
This column is no longer used but used to apply to IMO portable tanks and road tank vehicles.

**Column 13 – UN Tank and Bulk Container Instructions**
Contains T codes (see 4.2.5.2.6) applicable to the transport of dangerous goods in portable tanks and road tank vehicles**.**

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EXIS TECHNOLOGIES
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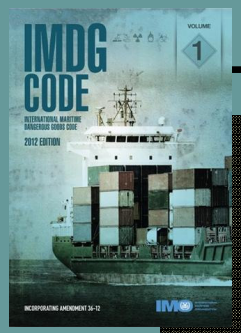
**IMDG Code reference: 3.2**




# Understanding the Dangerous Goods List (DGL)



**Column 14 – Tank Special Provisions**
Contains TP notes (see 4.2.5.3) applicable to the transport of dangerous goods in portable tanks and road road tank vehicles.

**Column 15 – EmS**
Refers to the relevant emergency schedules for FIRE and SPILLAGE in 'The EmS Guide – Emergency Response Procedures for Ships Carrying Dangerous Goods'.

**Column 16 – Stowage and Segregation**
Contains the stowage and segregation provisions as prescribed in part 7.

**Column 17 – Properties and Observations**
Contains properties and observations on the dangerous goods listed.

**Column 18 – UN Number**
Contains the United Nations Number for ease of reference across both pages of the printed book.

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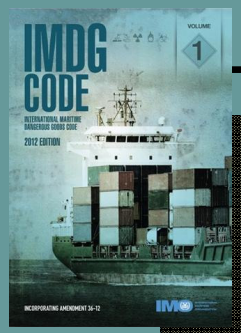


# Training Requirements



In the 2002 edition of the IMDG Code, training was introduced for the first time.

The IMO Member Governments recognised that the safe transport of dangerous goods by sea is dependent upon the appreciation, by all persons involved, of the risks involved and on a detailed understanding of the IMDG Code requirements.

Continued…

**IMDG Code reference: 1.3**

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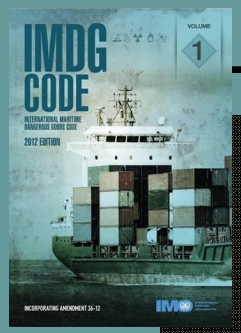


# Training Requirements



These training requirements highlight the need for all shore-based personnel involved in the shipment of dangerous goods to receive training commensurate with their responsibilities. The IMDG Code defines shore-based personnel as those who:

- classify dangerous goods and identify PSNs
- pack dangerous goods
- mark, label or placard dangerous goods
- load/ unload CTUS
- prepare transport documents for dangerous goods
- offer dangerous goods for transport
- accept dangerous goods for transport
- handle dangerous goods in transport
- prepare dangerous goods loading/stowage plans
- load/unload dangerous goods into/ from ships
- carry dangerous goods in transport
- enforce, survey or inspect for compliance with applicable rules and regulations

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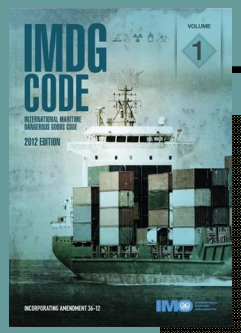
**IMDG Code reference: 1.3**




# IMDG Code e-learning



**IMDG Code** *e-learning*

Exis Technologies have developed a computer based IMDG Code e-learning course in collaboration with the International Maritime Organization. Designed primarily for shore-based personnel, it allows the user to select training relevant to their specific job functions.

Further details on the course are available at [www.imdge-learning.com](http://www.imdge-learning.com)

**Hazcheck Systems**

Exis Technologies also designs Hazcheck Systems for the management of dangerous goods in sea transport. Exis has been setting the dangerous goods compliance benchmark in sea transport for over 25 years.

Continued ...

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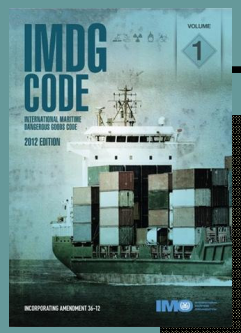


# Hazcheck Systems



Hazcheck Systems enable every link in the sea transport chain to automatically process dangerous goods shipments using the IMDG Code, and produce documentation.

- Hazcheck Online – fast, accurate web-based shipment processing for shippers and forwarders
- Hazcheck Workstation – a powerful tool for shippers, forwarders, agents and ship operators to check DG shipments and produce documentation
- Hazcheck Professional - a complete dangerous goods booking and management system for ferry and containership feeder operations
- Hazcheck Enterprise - a powerful and comprehensive DG booking and management system for global containership operations
- Hazcheck Gateway - a web-based compliance tool for shippers, container shipping lines, ports and logistics operators
- Hazcheck Toolkits - dangerous goods data packages and routines for incorporation into cargo booking, handling and planning systems

Please visit www.hazcheck.com for further information, free trials and purchasing

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