

SafeSeaNet

Guidelines on Reporting HAZMAT

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1. Introduction

The objective of these Guidelines is to improve the quality and accuracy of dangerous and polluting goods (HAZMAT) reporting in SafeSeaNet (SSN) through harmonisation. It is a 'living' document which can be updated or upgraded whenever so considered necessary by the SSN Group.

1.1. Background

The document has been drawn up following the 'HAZMAT reporting in SafeSeaNet' survey conducted by EMSA in cooperation with Member States. During the survey a number of problems were identified, among them:

- Low quality of reporting,
- Incorrect reporting,
- Misinterpretations,
- 'Mis-declarations'.

High Level Steering Group (HLSG) 9 agreed on setting up a HAZMAT Working Group in order to address these deficiencies. One of the measures identified by the HLSG to improve the data quality in SafeSeaNet was the drafting of Guidelines on Reporting HAZMAT Information in SSN.

1.2. Purpose

In order to overcome the problems identified above, the purpose of this document is to:

- Identify what has to be reported in accordance with the legal requirements
- Enhance awareness among stakeholders of why it is important to have accurate reporting
- Understand better how information should be reported
- Guide the reporting parties and the authorities in finding the correct information
- Support authorities by providing options for validating information received
- Provide a guide to the available training on HAZMAT
- Share the best practices in the area of reporting HAZMAT

1.3. Audience

The main stakeholders in reporting HAZMAT carried on board ships and therefore the intended audience of this document are:

- a) Industry stakeholders (manufacturers, shippers, freight forwarders, logistics companies) responsible for providing the relevant HAZMAT information, including where appropriate, the Material Safety Data Sheets and other legally required dangerous goods transport documents or dangerous goods manifests to the ship reporting parties,
- b) Ship reporting parties (masters, ship agents, and ship operators) responsible to ensure that the HAZMAT information received from the industry stakeholders is transmitted correctly and accurately to the NSW,
- c) Relevant MS authorities (SSN NCAs, single window, port, maritime, and security authorities) responsible for receiving and processing HAZMAT information transmitted by the reporting parties,
- d) Emergency services of the MS responsible for providing effective response to maritime incidents to minimise loss of life and damage to property and to prevent pollution, and
- e) EMSA services responsible for validating the quality of the data exchanged between MS through SSN.

2. Legal background

2.1 International Maritime Organisation

The international Maritime Organisation (IMO) has developed various legal instruments related to dangerous and polluting goods differentiating between how the goods are carried (packaged and bulk) and by type of cargo (solid, liquid and liquefied gases). The latter category is divided into oil, noxious liquid substances and liquefied gases. Regulations covering the carriage of dangerous cargoes and the ships that carry these cargoes are found in the International Convention for the Safety of Life at Sea (SOLAS, 1974), as amended, and the International Convention on Maritime Pollution (MARPOL 73/78), as amended. These conventions are supplemented by the following codes:

2.1.1 International Maritime Dangerous Goods Code (IMDG Code)

Compliance with the IMDG Code is mandatory for the carriage of packaged dangerous goods by sea by virtue of regulation VII/3 of SOLAS and MARPOL Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form. The conventions contain general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications. In accordance with section 2.0.1.1 Definitions “Substances (including mixtures and solutions) and articles subject to the provisions of this Code are assigned to one of the classes 1–9 according to the hazard or the most predominant of the hazards they present. Some of these classes are subdivided into divisions”. The conditions under which different classes of dangerous and polluting goods can be handled during their carriage by sea depend upon these properties and hazards.



For the purpose of MARPOL Annex III, “harmful substances” are 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.

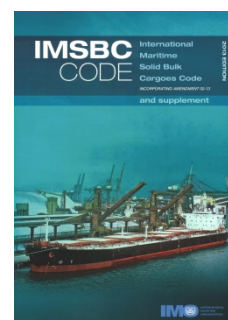
2.1.2 The International Maritime Solid Bulk Cargoes Code (IMSBC Code)

Hazards associated with the shipment of solid bulk materials are generally classified under the following main categories:

- Structural damage due to improper distribution of the cargo, during and after loading;
- Loss or reduction of stability during the voyage, either due to a shift of cargo or to the cargo liquefying under the combined factors of vibration and motion of the vessel; and
- Chemical reaction such as spontaneous combustion, emission of toxic or flammable gases, corrosion or oxygen depletion.

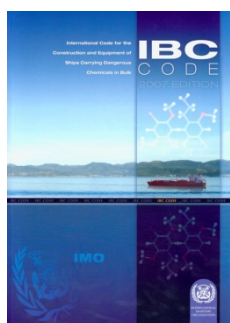
The Code’s three cargo groups are:

- Group A - cargoes which may liquefy
- Group B - cargoes with chemical hazards
- Group C - cargoes which are neither liable to liquefy nor possess chemical hazards.



It should be noted that some bulk materials may fall into both Group A and Group B. Bulk materials of group B may be deemed to be hazardous by virtue of the fact they have been classified as a dangerous good under the IMDG Code or it has been determined that they may be Materials Hazardous in Bulk (MHB). It should not be assumed that materials deemed to be MHB pose less of a risk than those with a UN number.

2.1.3 The International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)



Carriage of chemicals in bulk is covered by regulations in SOLAS Chapter VII - Carriage of dangerous goods - and MARPOL Annex II - Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk. Both Conventions require chemical tankers built after 1 July 1986 to comply with the International Bulk Chemical Code (IBC Code), which gives international standards for the safe transport by sea in bulk of liquid dangerous chemicals, by prescribing the design and construction standards of ships involved in such transport and the equipment they should carry so as to minimize the risks to the ship, its crew and to the environment, having regard to the nature of the products carried.

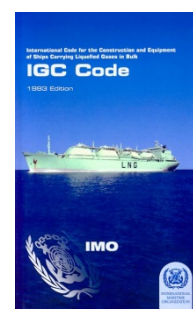
The IBC Code lists chemicals and their hazards and gives both the ship type required to carry that product as well as the environmental hazard rating. The products may have one or more hazard properties which include flammability, toxicity, corrosiveness and reactivity.

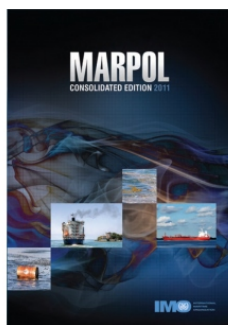
MARPOL Annex II details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk. It includes the following four-category categorization system in respect of hazards to marine resources and human health if noxious and liquid substances are discharged into the marine environment following tank cleaning or de-ballasting operations:

- i. Category X: Noxious Liquid Substances which are deemed to present a major hazard and are therefore prohibited from being discharged into the marine environment;
- ii. Category Y: Noxious Liquid Substances which are deemed to present a hazard and therefore there is a limitation on the quality and quantity of the discharge into the marine environment;
- iii. Category Z: Noxious Liquid Substances which are deemed to present a minor hazard and therefore there are less stringent restrictions on the quality and quantity of the discharge into the marine environment; and
- iv. Other Substances (OS): substances which have been evaluated and found to fall outside Category X, Y or Z because they are considered to present no hazards when discharged into the sea.

2.1.4 The International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code)

The purposes of the code is to provide an international standard for the safe transport by sea in bulk of liquefied gases and certain other substances, by prescribing the design and construction standards of ships involved in such transport and the operational procedures and equipment they should carry so as to minimize the risk to the ship, its crew and to the environment, having regard to the nature of the products involved.





2.1.5 MARPOL Annex I

This Annex regulates the prevention of pollution by oil from operational measures as well as from accidental discharges. The oils covered by this Annex include all types of oils ranging from crude oil to oil refuse and refined products (other than petrochemicals which are subject to the provisions of MARPOL Annex II). Appendix I to the Annex includes a non-comprehensive list of oils.

2.2. EU Legal Acts

The main Union legal act which regulates the reporting of dangerous and polluting goods (HAZMAT) carried on board ships is Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC, as amended, (VTMIS Directive).

Directive 2010/65/EU of the European Parliament and of the Council of 20 October 2010 on reporting formalities for ships arriving in and/or departing from ports of the Member States and repealing Directive 2002/6/EC (RFD) regulates the electronic transmission of reporting formalities covered by the Annex to the Directive. Two of these formalities concern the notification of dangerous or polluting goods carried on board ships: the notification required by Article 13 of the VTMIS Directive and FAL form 7 - Dangerous Goods Manifest – which forms part of the IMO Convention on the Facilitation of Maritime Traffic 1965 (FAL).



The relevant provisions within these legal acts are explained hereunder:

2.2.1 What to report

- a) Art. 3 defines dangerous and polluting goods by including references to the relevant IMO legal instruments: MARPOL Annex I, II, III and Codes BC (replaced by the IMSBC), IMDG, IBC, IGC and INF. This article also clarifies that these international instruments refer to 'their up-to-date version'. Therefore, even if the references in the definitions of dangerous and polluting goods are incorrect the amended version of the legal instruments has to be used for preparing HAZMAT notifications.
- b) Art. 12 specifies the information that has to be delivered to the master or operator of a ship before dangerous or polluting goods are taken on board.
- c) Annex I(3) identifies the information that has to be included in a HAZMAT notification and which is referred to in Annex 2 of these Guidelines.
- d) RFD Annex: Two formalities covered by the Directive concern the notification of dangerous or polluting goods carried on board ships: the notification required by Article 13 of the VTMIS Directive and FAL form 7 - Dangerous Goods Manifest. The first notification is mandatory because it is covered by a legal act of the Union. However, FAL Form 7 is only required if it forms part of the national legislation of Member States. Therefore, the reporting of data elements which are required by FAL Form 7 but which do not form part of the VTMIS Directive is optional, as indicated in Annex 2 of these Guidelines.

2.2.2 When to report

In accordance with Article 13 of the VTMS Directive, the operator, agent or master of a ship, irrespective of its size, carrying dangerous or polluting goods and:

- o leaving a port of a Member State shall, at the latest at the moment of departure, notify the information indicated in Annex I(3).
- o coming from a port located outside the Community and bound for a port of a Member State or an anchorage located in a Member State's territorial waters shall, at the latest upon departure from the loading port or as soon as the port of destination or the location of the anchorage is known, if this information is unavailable at the moment of departure, notify the information indicated in Annex I(3).

2.2.3 Who should report

VTMS Directive – Article 13 - establishes that all ships carrying dangerous or polluting goods, irrespective of their size, are obliged to comply with the notification requirements. It is the responsibility of the operator, agent or master of a ship to submit HAZMAT notifications to the competent authorities designated by Member States. The RFD also adds that the HAZMAT notification can be transmitted by 'any other person duly authorised by the operator of the ship'.

The SafeSeaNet National Competent Authorities (SSN NCA) are then responsible to make the relevant information available to other Member States through the SafeSeaNet system.

This notwithstanding, Article 15 of the VTMS Directive allows Member States to exempt individual vessels providing scheduled services, with voyages of a scheduled duration of up to 12 hours, from transmitting HAZMAT information for every voyage. Exemptions are allowed where the ship companies concerned have, to the satisfaction of the Member States, introduced internal procedures to ensure that HAZMAT information can be sent electronically to the competent authority upon request 24 hours a day and without delay. Member States have to ensure that any deviations from the estimated time of arrival at the port of destination or pilot station of three hours or more are notified to the port of arrival or to the competent authority. Member States are obliged to periodically check that the conditions for granting the exemption are being met. Where at least one of these conditions is no longer being met, Member States shall immediately withdraw the benefit of the exemption from the company concerned.

When an international scheduled service is operated between two or more States, of which at least one is a Member State, any of the Member States involved may request the other Member States to grant an exemption for that service. All Member States involved, including the coastal States concerned, shall collaborate in granting an exemption to the service concerned in accordance with the conditions set out in Article 15.

2.2.4 Where to report

As stated above, VTMS Directive – Article 13(1 and 2) provides that the ship data providers have to submit the notification to the competent authorities designated by Member States. Article 13 (3) allows Member States to authorise the operator, agent or master of a ship to notify the HAZMAT information to the port authority of the port of departure or destination, as appropriate.

Articles 2 and 5 of the RFD establish that HAZMAT information required in accordance with the VTMISS Directive and FAL Form 7 should be reported to a National Single Window (NSW) and made available to relevant national authorities.

In addition to the above, Articles 5 and 6 of the RFD require Member States to make this information available in their national SSN system to allow for its exchange with other Member States. Initially, the SSN NCA will transmit only limited information to the central SSN system but which allows the central SSN system to identify which ships are carrying HAZMAT and which Member States holds the detailed information.

The HAZMAT details are stored at national level, and is only reported by the Member State holding the information if requested by another Member State. Moreover, in accordance with Article 6.2 Member States shall ensure that the information received through the SafeSeaNet system is accessible, upon request, to the relevant national authorities.



2.2.5 How to report

VTMISS Directive – Article 13 specifies that to streamline and accelerate the transmission and utilisation of HAZMAT information, whenever practicable, it should be transmitted electronically to the competent authority or port authority concerned. Likewise, exchanges of information between the competent authorities of the Member States should take place electronically.

RFD Article 5 states that Member States shall accept the fulfilment of reporting formalities, which also include HAZMAT notifications, in electronic format and their transmission via a single window. The RFD defines ‘electronic transmission of data’ as ‘the process of transmitting information that has been encoded digitally, using a revisable structured format which can be used directly for storage and processing by computers’. Therefore, following the implementation date of the single window, on 1st June 2015, the transmission of paper or pdf HAZMAT notifications will not be possible.

2.2.6 Data Storage and Availability

The Interface and Functionalities Control Document (IFCD), which is drawn-up in accordance with the VTMISS Directive, establishes that HAZMAT data shall:

- a) be directly available in the SafeSeaNet system for a minimum of 2 months from the departure of the ship, and
- b) be archived for at least 5 years.

Moreover, the availability of the SafeSeaNet systems shall be maintained at a minimum of 99% over a period of one year, with the maximum permissible period of interruption being 12 hours.

3. Benefits of accurate Hazmat reporting

The need for accurate reporting and sharing of information on dangerous and polluting goods carried on-board ships has been recognised for long number of years. In its communication of 24 February 1993 on a common policy on safe seas, the Commission indicated that one way of enhancing safety at sea was by introducing a mandatory information system to give Member States rapid access to all important information relating to the movements of ships carrying dangerous or polluting materials and to the precise nature of their cargo.

Subsequently, Council Directive 93/75/EEC of 13 September 1993 concerning minimum requirements for vessels bound for or leaving Community ports and carrying dangerous or polluting goods was adopted to introduce a system whereby the competent authorities receive information regarding ships bound for or leaving a Community port and carrying dangerous or polluting goods. In response to the continuous increase in the volume of dangerous and polluting goods carried by ships and major maritime casualties involving such ships, the provisions of Directive 93/75/EC were significantly reinforced and extended through Directive 2002/59/EC on the establishment of a



Swedish Coast Guard, Sweden

Community vessel traffic monitoring and information system which should help to prevent accidents and pollution at sea and to minimise their impact on the marine and coastal environment, the economy and the health of local communities.

In recent years transportation of HAZMAT goods has continued to grow. Furthermore, recent occurrence of maritime casualties has raised questions regarding the reliability of the HAZMAT information being provided on board ships involved in such casualties. It has become ever more important that all stakeholders understand the need for accurately reporting HAZMAT information.



MCA, UK

Accurate knowledge of dangerous or polluting goods being carried on board ships is essential to the preparation and effectiveness of operations to tackle pollution or the risk of pollution at sea. Therefore, how to ascertain that HAZMAT information is available and accurate is a major concern. The need for accurate reporting is vital to minimise safety hazards and allow for quick and effective response to maritime incidents – it saves lives and property, and prevents pollution.

In summary the correct and accurate reporting of HAZMAT information facilitates the:

- i. identification of cargoes and their characteristics,
- ii. appropriate handling, segregation and carriage,
- iii. response to accidents if location of Hazmat is easily identified,
- iv. accommodation of ships in need of assistance at places of refuge,
- v. risk assessments in ports and waters under the jurisdiction of a Member State,
- vi. collection of reliable statistics on accidents involving ships carrying dangerous and polluting goods.

4. Content of Hazmat Notifications to SafeSeaNet

4.1. Definition of dangerous and polluting goods

According to Directive 2002/59/EC, as amended, **Dangerous Goods** means:

- goods classified in the IMDG Code,
- dangerous liquid substances listed in Chapter 17 of the IBC Code,
- liquefied gases listed in Chapter 19 of the IGC Code,
- solids referred to in IMSBC Code Appendix 4 – materials with Group (B) or (A+B)
- Also included are goods for the carriage of which appropriate preconditions have been laid down in accordance with paragraph 1.1.6 of the IBC Code or paragraph 1.1.6 of the IGC Code;

while **Polluting Goods** means:

- oils as defined in Annex I to the MARPOL Convention,
- noxious liquid substances as defined in Annex II to the MARPOL Convention, and
- harmful substances as defined in Annex III to the MARPOL Convention.

4.2. Data elements applicable for reporting in SafeSeaNet

The data elements which form part of HAZMAT notifications are those identified in Article 13 and Annex I (3) of the VTMS Directive and FAL Form 7 in accordance with the RFD. Table 1, below, identifies the data elements required by Directive 2002/59/EC and also indicates why the data elements are required and where to find further guidance in this document. The combined list of data elements (in accordance with Directive 2002/59/EC and FAL 7) is included in Annex 2. The table in Annex 2 compares the data elements required in the technical implementation of SafeSeaNet (XML Reference Guide) with the Directive 2002/59/EC requirements and data elements of IMO FAL form 7 which is the commonest form used by the shipping industry.

What and Why to report?	Where to find relevant guidance
DG Classification – Provides information to which IMO Code(s) or Convention the HAZMAT product relates to and identifies the nature of the cargo on board.	Annex 1 and Figure 1
Textual reference – Provides the product's name as found in the legal instruments, but may be different when the product is not yet listed in the legal instruments. It may be supplemented with the hazardous materials description.	Annex 3
UN Number - allows the identification of the cargo.	Annex 3
IMO Hazard Classes - essential for the proper identification of the characteristics and properties of the substances, materials and articles.	Annex 3
Quantity – essential to assess the risk posed by certain goods.	Chapter 5
Location on board – essential to identify the location of dangerous and polluting goods which are onboard a ship. This information is vital for providing the necessary assistance during rescue or salvage operations.	Chapter 5
Identification of the transport units - allows a quick identification of a Unit containing dangerous or polluting goods.	Chapter 5
Where appropriate, the class of the ship as defined by the INF Code.	Chapter 5

Table 1 - Data Elements and references in these guidelines

4.3. Relevant IMO Codes or Conventions

It is important that reporting parties know exactly how HAZMAT cargo is carried on-board ships and from where to obtain the correct information. The HAZMAT survey carried out by EMSA revealed that in some cases reporting parties are mainly conversant with the IMDG Code but not with the other legal instruments. In view of this certain bulk cargoes are reported using references from the IMDG code. On the other hand, bulk liquids may be carried in special tanks or bulk containers. This is considered to be packaged cargo and therefore the IMDG is applicable. Figure 1 provides guidance on which code or convention to use by starting from the mode of carriage, that is, how cargo is being carried (bulk or packaged) and by type of cargo (liquid, gas or solid). This explanation should lead to the use of the correct code or convention.

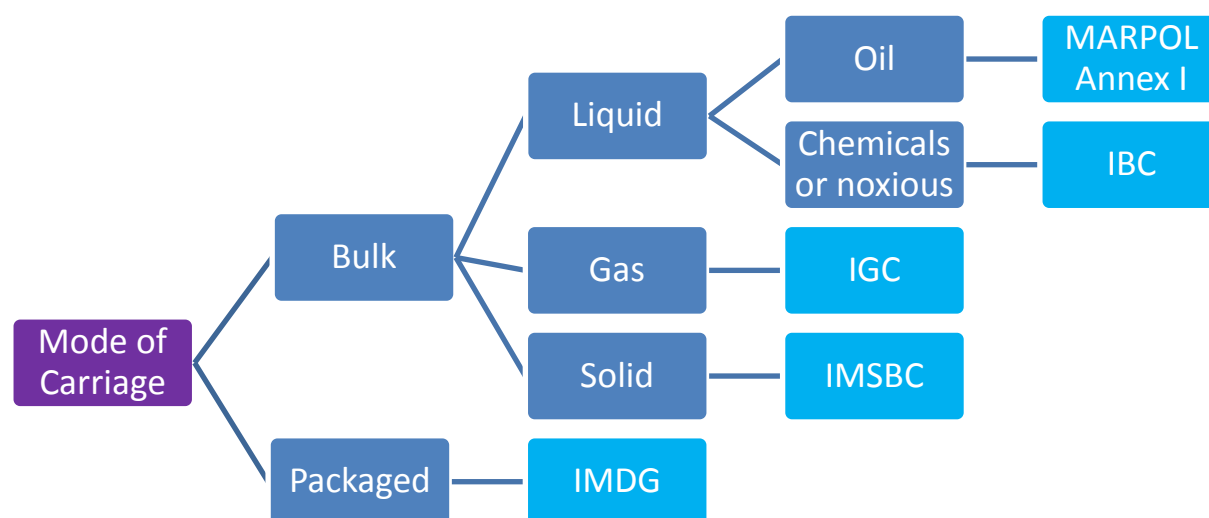


Figure 1 – HAZMAT Decision Tree

Some of the data elements which have to be reported by the VTMS Directive and FAL Form 7 may be obtained from the relevant code or convention. Annex 3 provides guidance from where the applicable data elements may be obtained by referring to the applicable Code or Convention. This part shall be read and understood in combination with the previous sections.

However, it is important to note that in some cases the information provided in the legal instruments is only indicative. It is the obligation of the industry stakeholders to assess and define the correct characteristics of a product and indicate these in the dangerous goods transport documents. Therefore, the content of this Annex is to be used only as a reference and reporting parties should always accurately report what is stated in the transport documents. For further details see Chapter 10.

5. Guidance on reporting specific data elements

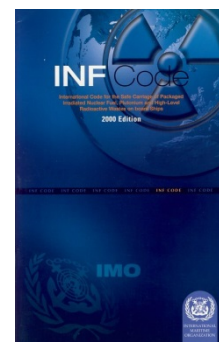
This chapter provides harmonised guidance on how some of the data elements should be reported by the ship data providers.

5.1. INF Class of the Ship

The INF class of the ship has to be reported only if the ship is carrying any of the materials covered by The International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code), primarily:

- Irradiated nuclear fuel
- Plutonium
- High-level radioactive wastes.

These three groups are included in IMDG Class 7 Radioactive Materials. The information that has to be reported in the SafeSeaNet systems is the INF class of the ship as provided in accordance with the INF Code: i.e. INF 1, INF 2 or INF3.



5.2. Quantity

This is either the Gross weight of the dangerous goods including respectively their packing, but without the equipment used by the carrier for their transport or Net weight of the dangerous goods excluding respectively their packing, and without the equipment used by the carrier for their transport. The quantity unit is expressed as a decimal figure and is an indication of the unit of measurement in which the weight (mass) or volume is expressed by using one of the following possible values:

- KGM (kilogram)
- TNE (Metric tonne)
- M³ (Cubic meter)

In SafeSeaNet the weight has to be reported as a decimal type data element where a dot has to be used as a separator. A number having a comma as the decimal point separator is not allowed.

It has to be noted that the quantity in cubic meters (M³) may depend on the temperature of the cargo, therefore caution shall be exercised when using this unit and whenever practical information about the transport temperature should be provided in the 'Additional Information' data element.

For bulk cargo, the 'Quantity' should be reported as per 'location on board' - e.g. 200 TNE in 02P, 500 TNE in 01C or 2000 TNE in hold 01.

5.3. Location on board

The SafeSeaNet XML Reference Guide includes recommendations for identifying the stowage position, but it was found that they do not allow for proper identification of the cargo on board ships. The Guidelines recall these recommendations and introduces new proposals for reporting the location on board specific ships. The following formats for the location on board are recommended depending on the type of a vessel.

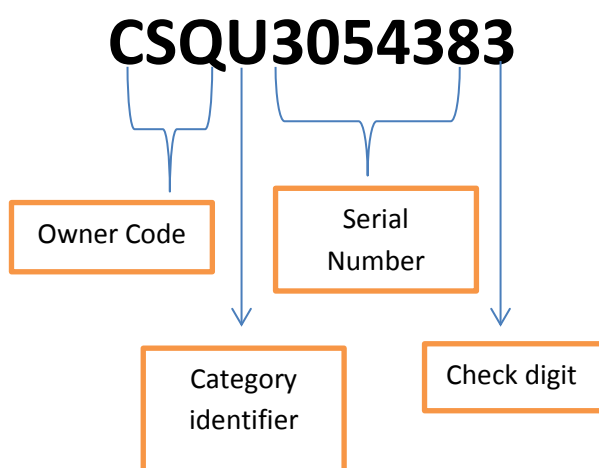
Type of the ship	Location on board reporting
Container vessels	As per ISO standard 9711-1: Bay/Row/Tier in format: BBBRRTT. If Bay number is less than 3 characters it must be filled with leading zeros, e.g. "0340210".
Ro-Ro vessels	- DECK/LANE/POSITION(FOR or FRN)/LEVEL • DECK number: counted from bottom to top • LANE number: counted from port to starboard • POSITION: distance measured in meters either from forward (FOR) or from frame number (FRN) to the centre of the cargo unit (which option is used has to be clearly indicated when providing the information) • LEVEL number: counted from bottom to top (on a single deck where it is possible to stow in multiple levels) See Examples in Annex 4
General cargo vessels	3 to 9 characters, format: ▪ first 3 characters (mandatory) for the hold number (01, 02, etc. with a further indication: S (Starboard), P (Portside) or C (Centre)); ▪ second 3 characters (optional) for the indication of the deck level: - o WED = weather deck - o TD9 = tween deck 9 - o TD1 = tween deck 1 - o LOH = lower hold ▪ third 3 characters (optional) for a further indication within a hold, e.g. Indication of the position of movable bulkheads using the 3 digit code for the frame number.
Tanker vessel	3 characters (mandatory) for the tank number (01, 02, etc. with a further indication: S (Starboard), P (Portside), C (Centre), F (Forward) or A (Aft). Statements: 'all cargo tanks' or 'all tanks' should be avoided.
Bulk Carriers	2 characters to report the hold number (01, 02, etc).

Table 2 – Location on board reporting per type of ship

5.4. Identification of cargo transport units containing HAZMAT

5.4.1 Identification of Containers

The identification number of containers shall be the identification code as defined in **ISO 6346** (limited to goods under IMDG code). This international standard is maintained by the BIC (International Container Bureau) and covers the serial number, owner, country code, and size of any given shipping container.



When reporting containers on trailers or chassis, only the container number should be provided.

5.4.2 Identification of vehicles carrying HAZMAT goods

For the Identification number of cargo transport units in case of road vehicles (except when they carry containers) their registration/plate numbers shall be used.

6. Reporting specific HAZMAT products

6.1 Reporting HAZMAT not listed in a Code or a Convention

According to the VTMIS Directive requirements, HAZMAT cargoes which are not listed in an IMO Code or Convention shall also be reported.

In such cases the proper classification and textual reference (name) shall be used in the notification to SafeSeaNet. Additional relevant information should also be provided, for example, the quantity carried. The 'Additional Information' field shall be used to indicate that the particular product/cargo is not listed in a Code but is being carried on the basis of a tripartite agreement including agreed conditions between the flag state of the ship and the port states where the cargo is loaded and discharged.

Regardless of the notification to SafeSeaNet Member States shall follow their obligations and notify IMO of such cases and the conditions of carriage. This shall ensure that the Code and Conventions are kept updated in due time.

6.1.1 IMSBC - tripartite agreements

Section 1.2.1 of the IMSBC Code recognises that the schedules in appendix 1 of the Code are not exhaustive and that the properties attributed to the cargoes are only given for guidance, hence the need for the shipper to provide valid information on the cargo. Where a cargo is not listed or presents properties that are not addressed by the available schedules then section 1.3.1 requires that Shippers provide the competent authority of the Port of Loading with the characteristics and properties of the cargo to enable the authority to assess the acceptability of the cargo for safe shipment, handling and carriage. In such cases:

- a) where the bulk cargo in question has been assessed to present hazards as defined by group A or B cargo (as defined by section 1.7 of the IMSBC Code) then section 1.3.1.1 requires the competent authority in the port of loading to seek further advice from the competent authorities at the port of unloading and of the Flag State of the ship. The three competent authorities will need to set the preliminary suitable conditions for carriage of this cargo through a tripartite agreement.
- b) Where the bulk cargo in question presents no specific hazards then section 1.3.1.2 requires the competent authority of the port of loading to authorise carriage of the cargo and to inform the two other competent authorities (i.e. Port of Unloading and the Flag State).

In either case, section 1.3.2 of the IMSBC Code requires the Competent Authority of the Port of Loading to provide the Master of the vessel with a certificate stating the characteristics and the required conditions for the carriage of the bulk cargo in question. The Master should not load the cargo if such a certificate is not provided.

6.1.2 IBC - tripartite agreements

Section 1.1.6 of the IBC Code requires that a product proposed for carriage in bulk but not listed in chapters 17 or 18 of the Code has to be evaluated by the involved authorities with regard to its hazard and assigned to a pollution category as appropriate. Reference is made to regulation 6.3 of MARPOL Annex II and to Chapter 21 of the IBC Code. The pollution classification and the assignment

of appropriate carriage requirements shall be provided to the master of the vessel before such product is loaded.

6.1.3 IGC - tripartite agreements

Section 1.1.6 of the IGC Code covers the procedure that should be followed for products which may be considered to come within the scope of the Code but are not included in the Chapter 19. The relevant administrations in the exporting and importing state and the flag of the ship should establish preliminary suitable conditions of carriage based on the principles of the Code. Subsequently such assessment and conditions should be notified to IMO for further analysis and updating of the Code.

6.2 Reporting of empty tanks and tank containers

Containers or tanks which contained HAZMAT products and have been emptied but still contain residues and are unclean, not gas free or inert shall be reported using the applicable data elements and with the quantity established as 1Kg and a qualification in the 'Additional Information' field describing the state of the container or tank e.g. 'empty unclean', 'empty inert' or 'empty not gas free'.

6.3 Reporting of the N.O.S. (Not Otherwise Specified)

The proper shipping name of a packaged product is given in column 2 of the dangerous goods list of IMDG Code. For all generic or "not otherwise specified" (N.O.S.) entries, the proper shipping name shall be supplemented with the recognized chemical name of the hazardous and/or marine pollutant constituents, as required by 3.1.2.8 and 3.1.2.9 of the IMDG Code. The recognized chemical name is declared by the shipper in the dangerous goods transport document.

6.4 Oils and Oil blends reporting

In accordance with the MARPOL Annex I oil means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than those petrochemicals which are subject to the provisions of Annex II of the MARPOL and IBC Code) and, without limiting the generality of the foregoing, includes the substances listed in appendix I to this Annex.

Blends of petroleum oil and bio fuels should be notified as follows:

- a) Bio fuel blends containing 75% or more of petroleum oil should be reported as an oil product under MARPOL Annex I.
- b) Bio fuel blends containing less than 75% petroleum oil should be reported as a product under MARPOL Annex II and the IBC Code, taking into consideration the guidelines provided in MEPC.1/Circ. 761 with respect to the assignment of the pollution category.

6.5 Fumigated cargoes reporting

Fumigated cargo transport units are covered by the IMDG Code and should be reported as 'UN 3359 FUMIGATED CARGO TRANSPORT UNIT, class 9'.

The fumigation of cargo holds containing solid bulk cargoes is addressed in section 3.6 of the IMSBC Code with a reference to MSC.1/Circ. 1264. The fumigation of a cargo hold, with cargo, does not have any effect on the grouping of the solid bulk cargo. Therefore, materials in groups A+B and B

shall be reported regularly through SafeSeaNet. On the other hand, group A cargoes carried in a fumigated cargo hold remains a group A cargo and is not subject to the reporting requirements of the VTMISS directive¹.

6.6 Bunkers reporting

Article 2 of the VTMISS Directive provides that the Directive is applicable to bunkers on ships above 1000 GT. Reporting of bunkers is considered to form part of requirements for HAZMAT reporting in accordance with Article 13.

The information on bunkers is important because they pose a danger to the maritime environment in cases of accidents. If the information on bunker is not made available then Member States lose important information needed for the effective response to accidents. Large container vessels can have a bunker capacity of over 8000 tonnes (example of 'MSC Flaminia': Fuel Capacity - Distillate Fuel: 300 tonnes, Residual Fuel: 7,700 tonnes).

In order to manage the SafeSeaNet system effectively and in a harmonised way all Member States have to report bunkers for all ships above 1000 GT following the same rules as for reporting other HAZMAT within the MS2SSN_PortPlus_Notification. The DG Classification element should be duly completed e.g. MARPOL Annex 1 for oils and IGC for gasses.

The relevant data elements of the MS2SSN_ShipCall_Response message, when requested by other Member States, should also be filled in. The location on board should refer to the bunker tanks, as this will clearly differentiate between HAZMAT cargo and bunkers.

¹ Clarification: the notification of fumigated group A cargoes are required in accordance with the notification requirements in section 3.3.2.16 of MSC.1/Circ.1264 which states that fumigation should be notified to the next port of call, identifying the fumigated cargo holds, the date when the fumigation took place and the name of the fumigant used. This can be considered as a notification in accordance with national legislation - Part C of the RFD).

7. Validation of HAZMAT notifications

Prevention of incidents and rapid and effective response is very often dependent on having high level of data quality available for exchange between Member States.

7.1 Responsibility for correct reporting of HAZMAT

Preamble 18 of Directive 2002/59/EC recognises that “The effectiveness of this Directive depends greatly on the Member States enforcing its implementation strictly. To this end, Member States must regularly carry out appropriate inspections or any other action required to ensure that the communication links established to meet the requirements of this Directive are operating satisfactorily. A system of sanctions should also be introduced to ensure that the parties concerned comply with the reporting and equipment carrying requirements laid down by this Directive”.

While Article 1 of the Directive states that: “Member States shall monitor and take all necessary and appropriate measures to ensure that the masters, operators or agents of ships, as well as shippers or owners of dangerous or polluting goods carried on board such ships, comply with the requirements under this Directive”. At the same time Article 16.3 recognises that Member States can only carry out inspections and verifications in their ports ‘within the limits of their available staff capacity’.

Article 25.2 determines that “Member States shall lay down a system of sanctions for the breach of national provisions adopted pursuant to this Directive and shall take all the measures necessary to ensure that those sanctions are applied. The sanctions thus provided shall be effective, proportionate and dissuasive”.

Additionally the Directive refers in Annex III of the SafeSeaNet Interface and Functionality Control Document (IFCD) where the data quality requirements are set (sections 4.6 and 5.2). In terms of these provisions Member States should ensure that the automatic data quality rules agreed by the SSN group are applied prior to notifications being sent to the central SSN system. The XML Reference Guide includes data quality procedures standards to:

- Prevent mistaken data to enter into SSN. Before sending the SSN data to the central SSN system, the Member State’s SSN national applications will perform a complete set of checks based on specific predefined rules ensuring the data cohesion.
- During the checking process, the national SSN application will verify that the message corresponds to the agreed format. If no conflict is detected the message will be sent to the central SSN system, otherwise it will be rejected by giving a relevant warning to the message originator about the nature of the mistake.
- Additional checks at EU level by the Maritime Support Service at EMSA will ensure harmonized implementation.

The XML Reference Guide recognises that the actors involved in the data quality chain are:

- SSN data originators (agents, masters or operators and Authorities)
- NCA
- Local competent authorities
- EMSA

National SSN systems should comply with the agreed technical set of rules. Although EMSA may verify the information received it will not modify any notification of the Member States but it will bring any identified failures in data quality to the attention of the Member State concerned.

The industry stakeholders and the ship data providers are responsible for the correctness of the data. The use of electronic systems could help in avoiding manual inputting errors and in facilitating the validation of data. However, information has to be validated by the data providers even when it concerns static data downloaded from a HAZMAT database. They have to verify that the information conforms to the actual state and characteristics of the HAZMAT being carried on board the ship (as further explained in Chapter 10).

The competent authorities are required to take ‘appropriate measures’ and as far as possible to ensure the validity of data. It is generally recommended that a mismatch when verifying HAZMAT notifications should not lead to the refusal of the notification. However, it may give rise for further investigation by the competent authority and the subsequent penalizing of the reporting party as per national legislation.

7.2 Data Validation Methods

The main validation methods include the following:

- Manual checking of what is reported against the relevant legal instruments and reference databases.
- Electronic checking using reference databases.
- Built-in validation rules, for example, by using the quantity and type of ship data elements. Warnings can prompt the reporting party to check the information if the IMDG code is used for HAZMAT cargoes in bulk. Likewise, the system may warn the user if packaged goods are being reported for a gas carrier.
- Onboard and ashore inspections.

The validation that is carried out by the central SafeSeaNet system takes place when a PortPlus message is received. The central SafeSeaNet system controls if the message complies with the structure, format and business rules. If one control fails, the whole message is rejected. Acceptance and rejection are indicated in the receipt message, as well as details of rejected elements.

As regards the content of the HAZMAT information in the PortPlus message, the central SafeSeaNet system rejects a notification if the MS has reported that a ship is carrying dangerous goods but one of the mandatory fields (e.g. DG Classification) is not provided or the content of the field is not in compliance with the XML Reference Guide (e.g. in the case of the DG Classification the correct values are only one of the following: “IMDG”, “IGC”, “IBC”, “MARPOL_ANNEX1”, “IMSBC”). The central SafeSeaNet system does not check, for example, whether there is a mismatch between the proper shipping name and a UN number. Such checks may be carried out by EMSA MSS but in no case will EMSA modify any notification of a Member State but if it detects an incorrect value it will draw the attention of the Member State concerned.

8. Reporting information on HAZMAT incidents

8.1 Failure of reporting parties to comply with notification requirements

Article 16 of the VTMIS Directive provides that ships which have failed to comply with the notification and reporting requirements imposed by this Directive shall be considered to be ships posing a potential hazard to shipping or a threat to maritime safety, the safety of individuals or the environment. Therefore, coastal stations holding relevant information on such ships shall communicate it to the coastal stations concerned in the other Member States located along the planned route of the ship.

The same article also obliges Member States to ensure that the information communicated to them is transmitted to the relevant port authorities and/or any other authority designated by the Member State. Within the limits of their available staff capacity, Member States shall carry out any appropriate inspection



Irish Coast Guard, Ireland

or verification in their ports either on their own initiative or at the request of another

Member State, without prejudice to any port State control obligation. They shall inform all Member States concerned of the results of the action they take.

8.2 Incident and Accidents involving HAZMAT on board ships

Other HAZMAT related incidents and accidents which are identified by the Directive as posing a risk to the maritime safety, the marine environment or the health of persons are the following:

- any incident or accident affecting the safety of the ship,
- Loss of containers with HAZMAT,
- the discharge or threat of discharge of polluting products into the sea, and
- Results of inspections which reveal anomalies which may prejudice the safety of navigation or create a risk for the environment.

8.3 Incident Reporting Guidelines

The Incident Reporting Guidelines (included in the following link: <http://emsa.europa.eu/documents/technical-documentation.html>) describe how incidents covered under section 8.1 and 8.2 should be reported and exchanged between Member States through the SafeSeaNet systems. For example, when the agent, Master or operator of a ship does not provide the HAZMAT notification to the designated port (departure or destination) an Incident Report should be distributed at least to the next port of call using the form in Appendix 3 of the Guidelines.



9. Building HAZMAT expertise

The successful implementation of legal instruments as regards reporting of dangerous and polluting goods are greatly dependent on the appreciation by all persons concerned of the risks involved and on a detailed understanding of the legislation. This can only be achieved by properly planned training programmes for all persons concerned with reporting HAZMAT.

Personnel engaged in reporting or handling HAZMAT information should be trained in identifying the appropriate information to be reported as highlighted in these Guidelines and as commensurate with their responsibilities.

All stakeholders mentioned in section 1.3 should receive general awareness and familiarization training in order to be familiar with what needs to be reported and from where to obtain the necessary information.

Special attention should be addressed to stakeholders, mentioned in paragraph 1.3.a, because they own the information which is reported (referred to on declarations) to ship reporting parties (as mentioned in paragraph 1.3.b) according to Article 12 of Directive 2002/59/EC. The information on the declarations is used as input for HAZMAT reporting carried out in accordance with Article 13 of the Directive. Therefore, the quality of the latter information is very crucial to achieve the reliable functioning of HAZMAT reporting. A primary provider of this information is a manufacturer of dangerous and polluting substances (DG). In accordance with Regulation 1907/2006/EC the manufacturer is responsible for establishing all hazardous aspects of the DG and compiling a (Material) Safety Data Sheet (MSDS or SDS) which records, inter alia, information for safe transport of DG in packaged form (IMDG code) or in bulk (IBC, IMSBC, IGC codes and other IMO instruments) for ships.

The training may include a description of the relevant legal provisions, the purpose of reporting, definition of HAZMAT data elements and methodologies that may be employed for validating data. It is also important to include in such training awareness on the consequences for incorrect reporting. Incorrect data, provided to a ship, may lead to incidents – with loss of property and lives and marine pollution – due to the fact that incorrect or missing data about HAZMAT cargo may lead to improper stowage and segregation or proper action is inaccurately identified during emergency response operations.

This knowledge should be regularly refreshed to maintain the relevant level of expertise and in order to reflect the changes in the applicable legal background.

10. Use of HAZMAT Databases

Some of the data elements which have to be reported in accordance with the VTMS Directive and FAL Form 7 may be obtained from HAZMAT databases. These databases may also be used to automatically fill in data elements required in notifications. However, it is important to note that in some cases the information provided in the legal instruments – and which is used to populate a database - is only indicative. Therefore, it is the obligation of the ship reporting parties to verify the information with the dangerous goods transport documents which they receive from the industry stakeholders. Any mismatches that result from cross-checking the information in the relative code or database and the declaration of the industry stakeholders should be brought to the attention of the latter for verification. Whenever this is not possible the ship reporting parties should report what is stated in the dangerous goods transport documents.

Some examples where this caution needs to be adopted are the following:

- a) The textual reference included in a database provides the proper shipping name according to column 2 of the IMDG Code dangerous goods list. For all generic or “not otherwise specified” entries, the proper shipping name shall be supplemented with the recognized chemical name of the hazardous and/or marine pollutant constituents, as required by 3.1.2.8 and 3.1.2.9 of the IMDG Code. The recognized chemical name is declared by the shipper in the dangerous goods transport document.
- b) For certain entries (UN numbers), a database does not provide a unique and unambiguous packing group. In such case the packing group as declared by the shipper has to be notified.
- c) Whenever a database provides a flashpoint, this is valid for the pure substance only. In case of mixtures and preparations, the exact flashpoint as declared by the shipper has to be used, even when different from the flashpoint provided by the database.
- d) The database provides “marine pollutant” information for pure substances which are listed by name in the IMDG Code. Any substance transported under a generic or “not otherwise specified” entry and which meets the classification criteria of 2.9.3 IMDG Code, is a marine pollutant and as has to be notified as such, even if this information is not provided by the data base.
- e) The database provides EmS table codes as shown in column 15 of the IMDG Code dangerous goods list. However, section 3.2.1 of the IMDG Code explains that for dangerous goods transported under n.o.s. entries or other generic entries, the most relevant emergency response procedures vary with the properties of the hazardous constituents. As a consequence, shippers may have to declare different EmS codes from those indicated, if to their knowledge such codes are more appropriate. In such cases, the EmS code declared by the shipper shall be used, even if different from the EmS code provided by the data base.

Annex 1 – Applicable elements per IMO Code or Convention

Type of goods	Dangerous				Polluting		
Convention	SOLAS				MARPOL		
					Annex I	Annex II	Annex III
Code	IMDG	IBC	IGC	IMSBC Code (replacing BC code)	-	-	-
Description	Dangerous substances in packaged form	Chemicals in bulk	Liquefied gases	Hazardous Solid Bulk Cargoes	Oils	Noxious liquid substances	Harmful substances in packaged form
Details	Chapter 3.2 All substances covered by the criteria mentioned in the IMDG Code	Chapter 17 Chapter 18 (cat. Z only)	Chapter 19	Appendix 4 – materials with Group (B) or (A+B)	Appendix 1 - List of Oils	Categorization of noxious liquid substances carried in bulk (IBC)	Categorization of Harmful substances carried in packaged form (IMDG)
Additional info (cargoes not listed in the codes)	Goods not listed by name have to be -classified under an appropriate n.o.s. entry	Goods for the carriage of which appropriate preconditions have been laid down in accordance with paragraph 1.1.6 of the IBC Code	Goods for the carriage of which appropriate preconditions have been laid down in accordance with paragraph 1.1.6 of the IGC Code	Goods for the carriage of which appropriate preconditions have been laid down in accordance with paragraph 1.3.1.1 of the IMSBC Code			

Annex 2 – Data elements applicable for reporting in SafeSeaNet

Data Elements SafeSeaNet XML Reference Guide			Data Elements FAL form 7	Directive requirements Annex 1 3.b
Specific Elements	Definition	Application		
DG classification	Attribute contains the information in which IMO Code(s) DG must be declared. Values: "IMDG", "IGC", "IBC", "MARPOL_ANNEX1", "IMSBC"	Mandatory DGClassification	No	Yes
Textual reference	This is the proper shipping name, completed with the technical name where appropriate, for goods under IMDG Code, or the product name for goods under IBC Code and IGC Code, or the bulk cargo shipping name for goods under IMSBC Code, or the name of oil for goods under Annex I to the MARPOL Convention.	Mandatory TextualReference	Proper Shipping Name	<i>The correct technical names of the dangerous or polluting goods</i>
IMO hazard class	Hazard class (IMDG-IMSBC codes)	Mandatory if IMDG and IMSBC IMOHazardClass	Class	<i>the IMO hazard classes in accordance with the IMDG, IBC and IGC Codes</i>
UN number	UN number.	Mandatory if IMDG and where applicable in IMSBC and IGC² UNNumber	UN Number	<i>the United Nations (UN) numbers where they exist</i>
Packing group	Code as appropriate and as defined in IMDG: "I", "II", "III"	Optional PackingGroup	Packing group	No
Subsidiary risks	Any risks in addition to the class to which dangerous goods are assigned; and which is determined by a requirement to have a subsidiary risk.	Optional	Subsidiary risks	No

² The UN Numbers are provided in IGC for information only (and will be deleted in the updated version of the Code which is applicable as from 1st July 2016)

Data Elements SafeSeaNet XML Reference Guide			Data Elements FAL form 7	Directive requirements Annex 1 3.b
Specific Elements	Definition	Application		
Flashpoint	The temperature in degrees Celsius at which a liquid will give off enough flammable vapour to be ignited. According IMDG Code DG Class 3 or subsidiary risk of Class 3	Optional FlashPoint	Flashpoint	<i>No</i>
MARPOL code	The possible values are those defined in MARPOL Annex II (X, Y, Z, OS) and MARPOL Annex III (P)	Optional MarpolCode	Marine Pollutant	<i>No</i>
EmS Schedule	Emergency response procedures for ships carrying dangerous goods number.	Optional EmSNumber	EmS	<i>No</i>
Package Type	This is a description of the outer package of the cargo item. Possible values: two-letter alphabetic code of annex VI of UNECE R21. EDIFACT codes (7065)	Optional PackageType	Number and kind of packages	<i>No</i>
Quantity	Gross weight of the dangerous goods including respectively their packing, but without the equipment used by the carrier for their transport or Net weight of the dangerous goods excluding respectively their packing, and without the equipment used by the carrier for their transport. Both expressed as a decimal figure.	Mandatory GrossQuantityNetQuantity	Mass (kg) Gross/Net	<i>the quantities of such goods [dangerous goods]</i>
Unit Of Measurement	Indication of the unit of measurement in which the weight (mass) or volume is expressed. Possible values are: KGM (kilogram), TNE (Metric tonne) or M ³ (Cubic meter)	Mandatory UnitOfMeasurementGross	Mass (kg)	

Data Elements SafeSeaNet XML Reference Guide			Data Elements FAL form 7	Directive requirements Annex 1 3.b
Specific Elements	Definition	Application		
Location	(see Chapter 5.3)	Mandatory LocationOnBoard	Stowage position on board	<i>location on board</i>
Identification No.	Identification number of cargo transport unit (if no tanks). For containers, this shall be the identification code as defined in ISO 6346	Mandatory TransUnitId	Marks & Numbers Container Id. No(s). Vehicle Reg. No(s).	<i>if they are being carried in cargo transport units other than tanks, the identification number thereof</i>
INF Ship Class	Code for the license of the vessel according to the INF Code (Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-level Radioactive Wastes in Flasks on board Ships). Possible values are: INF1 (Class INF 1), INF2 (Class INF 2), INF3 (Class INF3)	Optional INFShipClass	No	<i>the class of the ship as defined in the INF code</i>
Additional Information	Any additional information regarding dangerous and polluting goods on board.	Optional AdditionalInformation	Additional Information	<i>Goods for the carriage of which appropriate preconditions have been laid down in accordance paragraph 1.1.6 of the IGC and IBC Codes <u>and</u> <u>1.3.1.1 of the IMSBC Code</u></i>

Annex 3 – Applicable elements per IMO Code or Convention

IMDG

Data Elements SafeSeaNet		
XML Reference Guide		
Specific Elements	Definition	Application
DG classification	Attribute contains the information in which IMO Code(s) DG must be declared.	Mandatory
	Value: "IMDG"	
Textual reference	Proper Shipping Name (supplemented with the technical name of the contents, as declared by the shipper, when applicable)	Mandatory
IMO hazard class	Hazard class	Mandatory
	Possible values: (1)* (2), 2.1, 2.2, 2.3, (3), (4), 4.1, 4.2, 4.3, (5), 5.1, 5.2, (6), 6.1, 6.2, (7), (8), (9)	
UN number	UN number	Mandatory
Packing group	Code as appropriate and as defined in IMDG: "I", "II", "III". applicable for Hazard Classes: 3, 4.1, 4.2, 4.3, 5.1, 6.1, 8, 9.	Optional
Subsidiary risks	Any risks in addition to the class to which dangerous goods are assigned; and which is determined by a requirement to have a subsidiary risk. More than one value is possible. Possible values refer to IMO Hazard Class. Note: Marine Pollutant information may be also applicable here.	Optional

Flashpoint	The temperature in degrees Celsius at which a liquid will give off enough flammable vapour to be ignited. According IMDG Code DG Class 3 or subsidiary risk of Class 3	Optional
Marine Pollutant as per IMDG	Possible value P	Optional
EmS	Emergency response procedures for ships carrying dangerous goods number. Values: S-A to S-Z; fire: F-A to F-J.	Optional
Package Type	This is a description of the outer package of the cargo item.	Optional
	Possible values: two-letter alphabetic code of annex VI of UNECE R21. EDIFACT codes (7065)	
Quantity	Free text entry. Indicating Quantity.	Mandatory e.g. GrossQuantity
Unit Of Measurement	Indication of the unit of measurement in which the weight (mass) or volume is expressed.	Mandatory
	Possible values are: KGM (kilogram), TNE (Metric tonne) M3 Cubic meter)	e.g. Gross Quantity UnitOfMeasurementGross
Location		Mandatory LocationOnBoard
Identification No.	Identification number of cargo transport unit (if no tanks).	Mandatory
	For containers, this shall be the identification code as defined in ISO 6346 (limited to goods under IMDG code)	TransUnitId
INF Type reporting	Code for the license of the vessel according to the INF Code (Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-level Radioactive Wastes in Flasks on board Ships). Possible values are: INF1 (Class INF 1), INF2 (Class INF 2), INF3 (Class INF3)	Optional
		INFShipClass

Additional Information	Any additional information regarding dangerous and polluting goods on board, for example: - reference to tripartite agreements (Chapter 6.1). - For class 1 cargo: the net explosive mass - For class 7 cargo: the category, the activity, the transport index and when applicable the criticality safety index	Optional
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***Information on class 1 goods is linked with the relevant compatibility group and classification code.**

IMDG: [...]Substances and articles classified in class 1 shall be assigned to the appropriate division (1.1 – 1.6) and compatibility group. Goods of class 1 are considered to be “compatible” if they can be safely stowed or transported together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident. By this criterion, goods listed in this class have been divided into a number of compatibility groups, each denoted by a letter from A to L (excluding I), N and S. These are described in 2.1.2.2 and 2.1.2.3. of the IMDG Code.

The compatibility Group is part of the classification and shall be declared in the data element IMO hazard class. See table below - for reference only

Hazard division	Compatibility group													Σ A-S
	A	B	C	D	E	F	G	H	J	K	L	N	S	
1.1	1.1A	1.1B	1.1C	1.1D	1.1E	1.1F	1.1G		1.1J		1.1L			9
1.2		1.2B	1.2C	1.2D	1.2E	1.2F	1.2G	1.2H	1.2J	1.2K	1.2L			10
1.3			1.3C			1.3F	1.3G	1.3H	1.3J	1.3K	1.3L			7
1.4		1.4B	1.4C	1.4D	1.4E	1.4F	1.4G						1.4S	7
1.5				1.5D										1
1.6												1.6N		1
Σ 1.1–1.6	1	3	4	4	3	4	4	2	3	2	3	1	1	35

IGC

Data Elements SafeSeaNet XML Reference Guide		
Specific Elements	Definition	Application
DG classification	Attribute contains the information in which IMO Code(s) DG must be declared. Values: "IGC"	Mandatory
Textual reference	This is the product name for goods under IGC Code	Mandatory
UN number	UN number*	Optional
Flashpoint		Optional
Quantity	Free text entry. Indicating Quantity. e.g. GrossQuantity	Mandatory
Unit Of Measurement	Possible values are: KGM (kilogram), TNE (Metric tonne), M3 (Cubic meter)	Mandatory e.g. Gross Quantity UnitOfMeasurementGross
Location		Mandatory LocationOnBoard
Additional Information	Any additional information regarding dangerous and polluting goods on board. (e.g. indication of HAZMAT carried under a tripartite agreement)	Optional
*In the IGC Code the UN Numbers are included for information only (but the revised IGC, which is applicable as from 1st July 2016 does not contain UN Numbers).		

IBC

Data Elements SafeSeaNet XML Reference Guide		
Specific Elements	Definition	Application
DG classification	Attribute contains the information in which IMO Code(s) DG must be declared. Value: "IBC"	Mandatory
Textual reference	This is the product name for goods under IBC Code	Mandatory
IMO hazard class	Hazards Possible values: S, P, S/P	Mandatory
Flashpoint	The temperature in degrees Celsius at which a liquid will give off enough flammable vapour to be ignited.	Optional
MARPOL code	Pollution category. Possible values: "X", "Y", "Z", "OS"	Mandatory
Quantity	Free text entry. Indicating Quantity.	Mandatory e.g. GrossQuantity
Unit Of Measurement	Indication of the unit of measurement in which the weight (mass) or volume is expressed. Possible values are: KGM (kilogram), TNE (Metric tonne), M3 (Cubic meter)	Mandatory e.g. Gross Quantity UnitOfMeasurementGross
Location		Mandatory LocationOnBoard
Additional Information	Any additional information regarding dangerous and polluting goods on board. For example: - indication of HAZMAT carried under a tripartite agreement (Chapter 6.1) - Where column 'o' in the table of chapter 17 refers to paragraph 16.2.6, the cargo's viscosity at 20°C shall be specified on a shipping document, and if the cargo's viscosity exceeds 50 mPa.s at 20°C, the temperature at which the cargo has a viscosity of 50 mPa.s shall be specified in the shipping document. - Where column 'o' in the table of chapter 17 refers to paragraph 16.2.9, the cargo's melting point shall be indicated in the shipping document.	Optional

IMSBC

Data Elements SafeSeaNet		
XML Reference Guide		
Specific Elements	Definition	Application
DG classification	Attribute contains the information in which IMO Code(s) DG must be declared. Values: "IMSBC"	Mandatory
Textual reference	This is the bulk cargo shipping name for goods under IMSBC Code	Mandatory
IMO hazard class	Group Possible values: 'B' or 'A and B' (this information may be further qualified with the information under 'Class' in the IMSBC (e.g. MHB (material hazardous only in bulk) or an IMDG Code class (4.1, 4.2, 4.3, 5.1, 6.1, 7, 8 and 9))	Mandatory
UN number	UN number	Optional
Quantity	Indicating Quantity.	Mandatory e.g. GrossQuantity
Unit Of Measurement	Indication of the unit of measurement in which the weight (mass) or volume is expressed. Possible values are: KGM (kilogram), TNE (Metric tonne) M3 (Cubic meter)	Mandatory e.g. Gross Quantity UnitOfMeasurementGross
Location		Mandatory LocationOnBoard
Additional Information	Any additional information regarding dangerous and polluting goods on board. (e.g. indication of HAZMAT carried under a tripartite agreement)	Optional

MARPOL ANNEX I

Data Elements SafeSeaNet XML Ref. Guide		
Specific Elements	Definition	Application
DG classification	Attribute contains the information in which IMO Code(s) DG must be declared. Values: "MARPOL_ANNEX1"	Mandatory
Textual reference	This is the name of oil for goods under Annex I to the MARPOL Convention.	Mandatory
Flashpoint	The temperature in degrees Celsius at which a liquid will give off enough flammable vapour to be ignited.	Optional
Quantity	Free text entry. Indicating Quantity.	Mandatory e.g. GrossQuantity
Unit Of Measurement	Indication of the unit of measurement in which the weight (mass) or volume is expressed. Possible values are: KGM (kilogram), TNE (Metric tonne) M3 (Cubic meter)	Mandatory e.g. Gross Quantity UnitOfMeasurementGross
Location		Mandatory LocationOnBoard
Additional Information	Any additional information regarding dangerous and polluting goods on board. For example, for the substances referred to in Annex I to the MARPOL Convention, the safety data sheet detailing the physico-chemical characteristics of the products, including, where applicable, their viscosity expressed in cSt at 50 °C and their density at 15 °C and the other data contained in the safety data sheet in accordance with IMO Resolution MSC.286(86).	Optional

Summary Table of Applicable elements per IMO Code or Convention

DG Classification, IMO Code, mode of carriage	Textual Reference (Applicable Y/N)	UN number (Appl. Y/N)	IMO Hazard Class (possible classes)	Packing group (Applicable Y/N)	EmS (Applicable Y/N)	Subsidiary risk (Applicable Y/N)	MARPOL Code (Marine Pollutant per IMDG or Pollution Category per IBC) (Appl. Y/N)
IMDG, packaged goods	Y (Proper shipping name) Supplemented with the technical description as declared by the shipper, where applicable	Y	(1), 1.1, 1.2, 1.3, 1.4, 1.5, 1.6 Applicable compatibility group (A to S) must be added to the class (2), 2.1, 2.2, 2.3, (3) (4), 4.1, 4.2, 4.3, (5), 5.1, 5.2, (6), 6.1, 6.2, (7), (8), (9)	Y/N Only applicable for IMO Hazard Class: 3, 4.1, 4.2, 4.3, 5.1, 6.1, 8, 9. Not every good of these classes has a packing group. Possible values I, II, III.	Y/N Possible values spillage: S-A to S-Z; fire: F-A to F-J.	Y/N Possible values refer to IMDG and IMO Hazard Class. More than one value is possible.	Y/N Possible value: P
IBC	Y (Product name)	N	Possible values: S, P, S/P	N	N	N	Y Possible values: X, Y, Z, OS
IGC	Y (Product name)	Y	N	N	N	N	N

DG Classification, IMO Code, mode of carriage	Textual Reference (Applicable Y/N)	UN number (Appl. Y/N)	IMO Hazard Class (possible classes)	Packing group (Applicable Y/N)	EmS (Applicable Y/N)	Subsidiary risk (Applicable Y/N)	MARPOL Code (Marine Pollutant per IMDG or Pollution Category per IBC) (Appl. Y/N)
IMSBC	Y (Bulk cargo shipping name)	Y/N ³	Possible values "B" or "A and B" (this information may be further qualified with the information under 'Class' in the IMSBC (e.g. MHB (material hazardous only in bulk) or an IMDG Code class (4.1, 4.2, 4.3, 5.1, 6.1, 7, 8 and 9))	N	N	N	N
MARPOL Annex 1	Y (Name of oil)	N	N	N	N	N	N

³ If a solid bulk cargo has a UN Number than the Bulk cargo shipping name (BCSN) always contains the UN Number and the cargo always possesses a hazard class (IMDG class) other than MHB, but group is B or A+B. Some cargoes could possess secondary hazard, e.g. BARIUM NITRATE UN 1446, CI 5.1 (6.1), Group B

Annex 4 – Examples of RO/RO vessel coding (courtesy Port of Antwerp)

