
**Requirements for a SafeSeaNet
common HAZMAT reference
database
(CHRD)**

25 July 2014

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1. Objectives

The objectives of the SafeSeaNet (SSN) common HAZMAT reference database (CHRD) are to:

- improve the data quality of HAZMAT notifications,
- minimise the administrative burden for the ship reporting parties when submitting HAZMAT information to a national single windows (NSW), and
- support the Member States (MSs) emergency services to provide effective response to maritime incidents.

2. Users

The intended users of the CHRD are:

- 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,
- Ship reporting parties (ship masters, agents and operators) responsible for ensuring that HAZMAT information received from the industry stakeholders is transmitted completely and accurately to a NSW,
- Member State authorities (SSN National Competent Authorities and single window, port, maritime and security authorities) responsible for receiving, and processing¹ HAZMAT information transmitted by ship reporting parties,
- Emergency services responsible for providing effective response to maritime incidents to minimise loss of life and damage to property and to prevent pollution, and
- EMSA services responsible for validating the quality of the information exchanged between MSs through SSN.

3. Functional Uses

The objectives of the CHRD can be achieved if it is used as a reference and a verification tool during the HAZMAT reporting process, both at national and central level:

As a reference:

- Industry stakeholders and reporting parties can easily search for the correct HAZMAT details identifying first the mode how the cargo is carried (mode of carriage: bulk or packaged), and in the case of bulk transport the type of cargo (liquid, gas or solid), as shown in Figure 1, and then using specific identifiers – technical reference, UN Number or hazard class.
- The administrative burden of ship reporting parties can be minimised when submitting HAZMAT information. If a copy of the CHRD is downloaded and integrated in the NSW, once the ship reporting parties inputs an identifier (e.g. technical name or the UN number), the NSW would automatically fill parts of the

¹ Processing includes the enforcement of notification requirements by random checking for compliance and by imposing sanctions in case of infringements.

cargo description which are available in the CHRD. However, it has to be noted that the additional cargo description required for all “not otherwise specified” (n.o.s.) generic entries are not provided by the database. Further guidance on how to use HAZMAT databases is provided in the Guidelines on HAZMAT Reporting in SSN.

- Competent authorities and EMSA services can download from the database information which is necessary to effectively respond to a maritime casualty involving ships carrying HAZMAT cargo.

For verification:

- Competent authorities and EMSA services can cross-check and validate the correctness of the HAZMAT data notified to SSN by the national SSN and NSW systems.

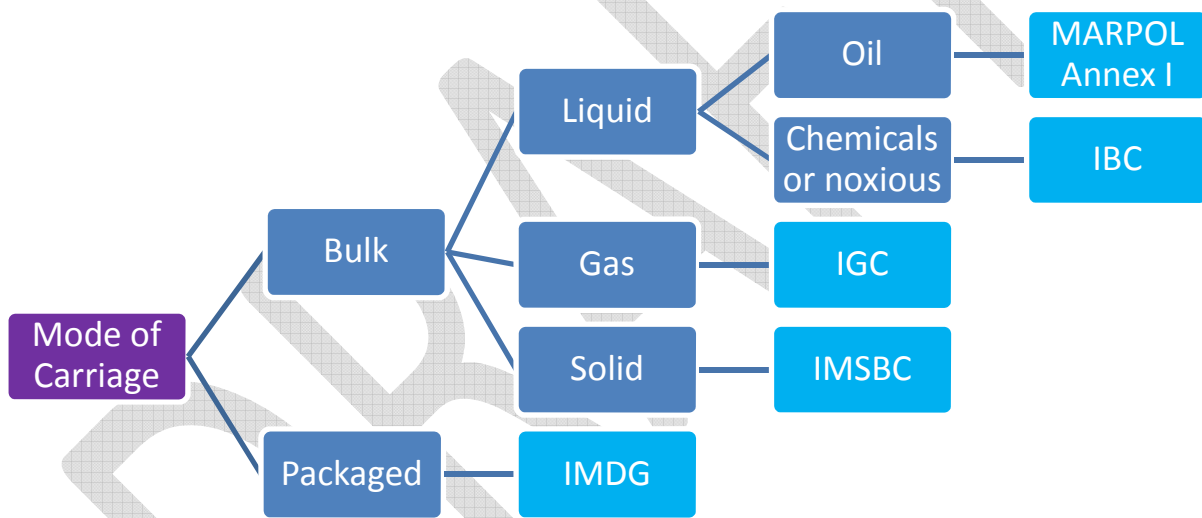


Figure 1 – HAZMAT Decision Tree

4. Data Flows

Based on the information presented in Chapters 2 and 3, Figure 2 depicts the general information flow between the users of the CHRD.

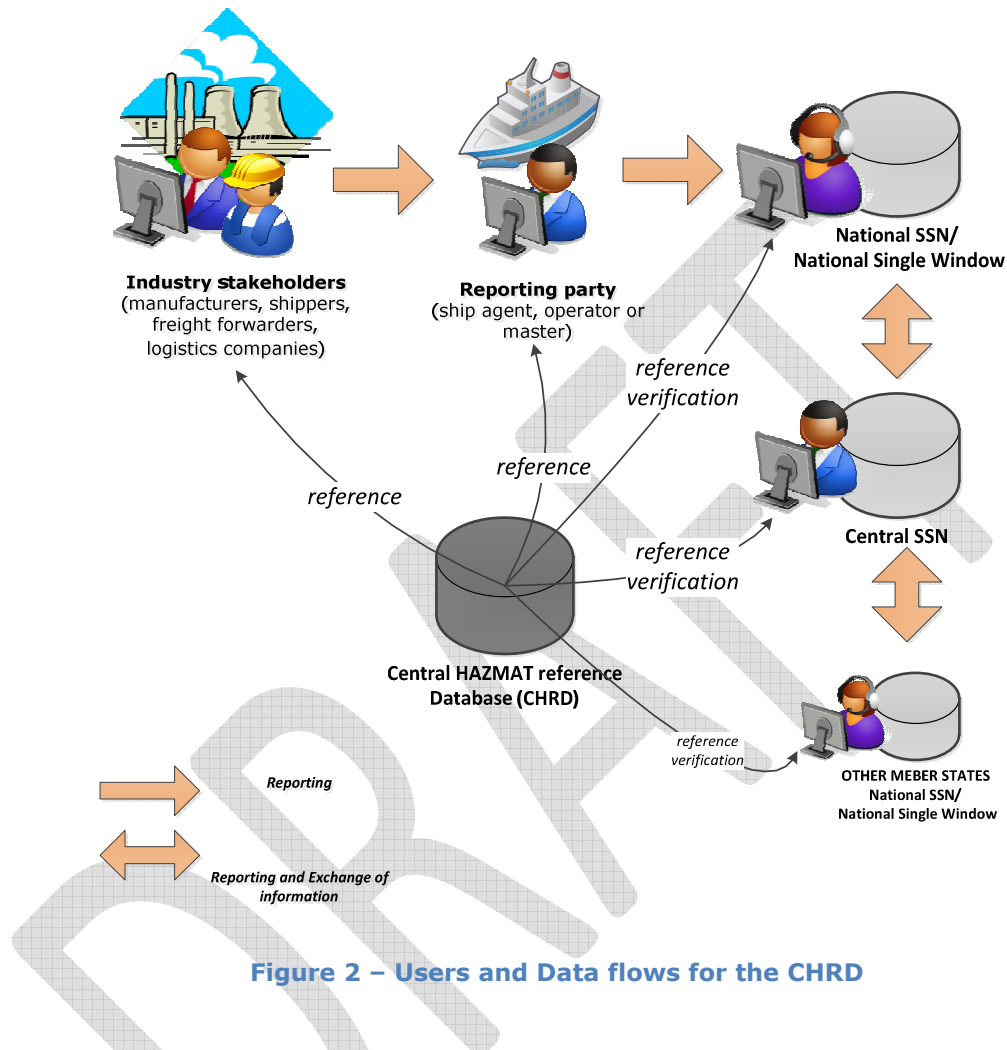


Figure 2 – Users and Data flows for the CHRD

5. Content

The database shall contain:

- A list of dangerous and polluting goods that have to be notified in accordance with Directive 2002/59/EC, as amended, and FAL Form 7, taking into consideration the data elements and the relevant parts of the IMO Codes and Conventions – as identified in the Guidelines on HAZMAT Reporting in SSN (IMDG, IBC, IMSBC, ICG or MARPOL Annex 1). The total number of HAZMAT products in the database would be around 5,000. The number of products per code varies from around 3,500 in the IMDG code to 50 in the list of oils in MARPOL
- A link to the relevant entries in the MAR-CIS database, which is being developed by EMSA and includes information on associated hazards and risks of HAZMAT products.
- Other dangerous and polluting goods or data elements which may be identified by Member States.

The data set for CHRDR is presented in the ~~Table 1~~ ~~Table 1~~ below:

Data Set	
0.	Mode of transport (Bulk or Packaged)
1.	DG classification
2.	Textual reference
3.	IMO hazard class
4.	UN number
5.	Packing group
6.	Subsidiary risks
7.	Flashpoint
8.	MARPOL pollution code (Marine Pollutant as per IMDG or Pollution Category as per IBC)
9.	EmS

Table 1 – data set for the CHRDR

~~Figure 1~~ ~~Figure 1~~ and Table 1 shall be used as guidance for building the database structure and for populating the database with the relevant values per applicable IMO Code and Convention.

Note: Guidelines on Reporting Hazmat in SSN contains remarks related to the specific CHRDR data set's elements and guidance on the practical use of the CHRDR (e.g. cases of misalignments between the data set provided by the CHRDR and the shipper's declaration).

The database will contain all entries in the English language.

6. Search and validation functions

The basic functionalities of the CHRDR shall include:

- searching for the details of HAZMAT products by using a specific identifier (e.g. UN Number or technical name), and
- filtering the resulting list of HAZMAT products by data elements mentioned in Table 1,
- exporting the resulting list and dataset to the following file formats: txt, xml, xls, xdoc, pdf.

To search for the details of a HAZMAT product the user has to identify it either directly by its UN Number or by using part of its textual reference:

- When the user enters a four digit UN number the details of the product are displayed. If the UN Number is not recognised the user will be warned that the inputted UN number does not exist.
- The user may search by inputting three letters of a product's textual reference. The system searches for the products including the letters and provides an alphabetic list of all substance names beginning with the inputted letters and the corresponding UN Number, if applicable, and the relevant IMO Code or Convention. The user may select one product from the list and all the details for that product are then displayed.
- The user may also search by combining the name of the product (or part of the name), the mode of carriage (bulk or packaged) and the nature of the product (liquid, gas or solid) as depicted in Figure 1.
- The search function may also include validation tools in order to correctly identify the relevant code for a particular product. For example, by including the possibility of including the quantity, the user can input the quantity of the product that will be carried and if the amount is greater than, for example, 50 tons then the system would direct the user to choose the bulk option. The ship type could also be used as a validation, for example, normally containers are not carried on gas carriers.

7. Hosting

The CHRDR shall be developed, hosted and managed centrally by EMSA and will be made available to all the stakeholders – MSs and industry - through the interfaces described in Chapter 8. As established in the SSN Interface and Functionalities Control Document (IFCD) the use of a central database has the advantage that data is harmonised and inconsistencies are avoided.

Although MSs will have easy access to the CHRDR, they may choose to establish a national system for hosting a copy of the CHRDR in their national SSN systems and NSWs and to make it available to their national authorities and their shipping industry. A dedicated mechanism between the central and national systems will have to be developed for this purpose: web interface and a system-to-system service.

For this purpose EMSA shall develop a service to allow MSs and industry either to receive or to download the latest copy or updates of the CHRDR through the interfaces mentioned in Chapter 8.

8. Access to the CHRDR - Interfaces

The CHRDR shall be made available through the following interfaces:

- a. EMSA dedicated HAZMAT web page

This would allow for unrestricted public access, although prior registration may be required to compile information on who is using the CHRDR. The user will be able to use the search functionality and to export results or a copy of the database in pdf formats.

- b. SSN web interface

Access to the CHRDR will be through a password protected system for pre-determined users (SSN community). The users will be able to benefit from all the functionalities of

the CHRД and be able to download a copy of the CHRД for installation in a local network, for example, the national SSN system and the NSW.

c. System-to-System

A system-to-system interface may also be developed if considered necessary by the MSs. In this case the development time-frame is longer than in the previous two interface options because it requires the elaboration of the appropriate technical messages.

In view of the above considerations, it may be more feasible to build the CHRД over a two phase approach – first develop the web interface options and then the system-to-system interface. This has the advantage that the MSs and industry can benefit from an earlier implementation of the CHRД through web interfaces. The system-to-system can be based on the experience gained following the first phase and usage of the CHRД.

9. Updates and Maintenance

The CHRД would have to be updated as soon as there are changes to the relevant IMO Codes and Conventions and legal acts of the Union related to the carriage and reporting of HAZMAT information. Updating the database may be carried out in two ways:

- a) Update and edit individual data elements; and
- b) Update all the entries with respect to a particular Code.

A new version of a Code is normally issued once every two years. However, in between, individual data items may need to be updated following changes or corrections made by IMO.

A CHRД version control system shall be created in order to track all the updates made to the initial CHRД. The version control/tracking system shall include an easy and user-friendly presentation of the changes made per product as well as a summary of all changes made during a specific period of time.

Updates will be notified to MSs and reporting parties depending on the systems and interfaces they are using.

10. Operational standards

The CHRД performance and security standards shall be in accordance with the SSN IFCD, including that it will be available:

- twenty-four hours a day, seven days a week.
- at a minimum of 99% over a period of one year, with the maximum permissible period of interruption being 12 hours.