

**Committee of Experts on the Transport of Dangerous Goods  
and on the Globally Harmonized System of Classification  
and Labelling of Chemicals**

2 July 2019

**Sub-Committee of Experts on the Transport of Dangerous Goods  
Fifty-fifth session**

Geneva, 1-5 July 2019

Item 7 of the provisional agenda

**Global harmonization of transport of dangerous goods  
regulations with the Model Regulations**

**Outcome of the thirty-first session of the Editorial and  
Technical Group (the IMDG Code)**

**Submitted by the International Maritime Organization (IMO)**

Attached to this document is the report of the thirty-first session of the Editorial and Technical Group of the IMO.

Some paragraphs of the report merit particular attention of the Sub-Committee. These are the following: 2.3, 2.5, 2.7, 2.8, 3.13 and 3.45.

SUB-COMMITTEE ON CARRIAGE OF  
CARGOES AND CONTAINERS  
6th session  
Agenda item 6

CCC 6/6  
29 April 2019  
Original: ENGLISH

## AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS

### Report of the thirty-first session of the Editorial and Technical Group

#### Note by the Secretariat

#### SUMMARY

*Executive summary:* This document contains the discussions and decisions taken by E&T 31 in the context of amendments to the International Maritime Dangerous Goods (IMDG) Code

*Strategic direction, if applicable:* Other work

*Output:* OW 3

*Action to be taken:* Paragraph 6

*Related documents:* CCC 5/6/1, CCC 5/6/2, CCC 5/6/3, CCC 5/6/4, CCC 5/6/5, CCC 5/6/6, CCC 5/6/7, CCC 5/6/8, CCC 5/6/9, CCC 5/6/12, CCC 5/8/1 and CCC 5/13

## 1 GENERAL

### Introduction

1.1 The thirty-first session of the Editorial and Technical Group (E&T) of the Sub-Committee on Carriage of Cargoes and Containers (CCC) met from 1 to 5 April 2019 under the chairmanship of Mr. Steven Webb (United States).

1.2 The session was attended by delegations from the following Member States:

ANGOLA	NETHERLANDS
BAHAMAS	NIGERIA
BELGIUM	PERU
CANADA	REPUBLIC OF KOREA
CHINA	SPAIN
DENMARK	SWEDEN
FINLAND	SWITZERLAND
FRANCE	TURKEY
GERMANY	UNITED ARAB EMIRATES
JAPAN	UNITED KINGDOM

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LIBERIA  
MARSHALL ISLANDS

UNITED STATES

and observers from the following international organizations and non-governmental organizations in consultative status:

BIMCO  
DANGEROUS GOODS ADVISORY COUNCIL (DGAC)  
WORLD NUCLEAR TRANSPORT INSTITUTE (WNTI)  
INTERNATIONAL PAINT AND PRINTING INK COUNCIL (IPPIC)

### **Instructions to the E&T Group**

1.3 The Sub-Committee (CCC 5) authorized E&T 31 to prepare the next set of draft amendment 40-20 to the IMDG Code, based on documents submitted to CCC 5 and taking into account comments made and decisions taken by the Sub-Committee at that session. E&T 31 should also take into consideration the outcome of the UN Sub-Committee on Transport of Dangerous Goods (TDG) with regard to the amendments to the twentieth revised edition of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations. Furthermore, the Group should prepare consequential draft amendments to the *Revised Emergency response procedures for ships carrying dangerous goods* (EmS Guide) (MSC.1/Circ.1588), if any. Additionally, the Group should identify and correct any editorial mistakes in amendment 39-18 to the IMDG Code, adopted by resolution MSC.442(99), and submit a written report to CCC 6.

### **Adoption of the agenda**

1.4 Noting that the provisional agenda contained in document E&T 31/1 was based on the instructions of CCC 5, the Group adopted the agenda.

1.5 The list of participants is contained in document E&T 31/INF.1.

## **2 PREPARATION OF DRAFT EDITORIAL CORRECTIONS TO THE AMENDMENTS TO THE IMDG CODE (AMENDMENT 39-18)**

2.1 Based on documents E&T 31/2 (Secretariat), E&T 31/2/1 (Germany), E&T 31/2/2 (Republic of Korea), annex 2 to E&T 31/2/3 (France) and E&T 31/2/4 (ICHCA), the Group prepared draft editorial corrections to the English version of the IMDG Code (amendment 39-18), as set out in annex 1. In so doing, the Group took action as described in the paragraphs hereafter.

### **Corrections to the twentieth revised edition of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations**

2.2 In considering document E&T 31/2 (Secretariat), the Group identified corrections that are applicable to the Code incorporating amendment 39-18, emanating from corrections to the twentieth revised edition of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations (hereafter referred to as Model Regulations), as set out in annex 1.

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***Proper shipping name (PSN) for UN 3543***

2.3 Regarding the replacement of the Proper Shipping Name (PSN) for UN 3543 with "ARTICLES CONTAINING A SUBSTANCE WHICH IN CONTACT WITH WATER EMITS FLAMMABLE GASES, N.O.S.", the Group noted that amending the PSN from singular "GAS" to the plural form of "GASES" could create implementation issues and inconsistencies. Therefore, having agreed to the draft amendment as contained in annex 1, the Group also agreed to invite the UN TDG Sub-Committee to consider the possible implications of inconsistencies.

**Additional corrections applicable to resolution MSC.442(99) and 2018 edition of the IMDG Code publication*****Lithium ion batteries or lithium metal batteries***

2.4 In considering document E&T 31/2/1 (Germany), and having agreed to insert "lithium ion batteries or lithium metal batteries" in provision 2.9.2.2 of the Code, the Group concurred that the UN TDG Sub-Committee should be notified of this draft amendment, as it had not been included in the Model Regulations yet.

***Control temperature and emergency temperature for UN 3116***

2.5 The Group considered editorial correction proposals contained in document E&T 31/2/2 (Republic of Korea). In particular, the Group, noted the merit of amending the control temperature and emergency temperature for UN 3116 in provision 2.5.3.2.4 of the Code. Nevertheless, the Group agreed not to take any action for the time being, as it was considered that it could create inconsistency with the Model Regulations. In this respect, the Group invited the UN TDG Sub-Committee to consider replacing "35" and "40" with "+35" and "+40", respectively, with the view to harmonization.

***List of packing instructions***

2.6 Regarding draft amendments in relation to composite packagings under section 4.1.4 (List of packing instructions), the Group agreed that this proposal should first be submitted to the UN TDG Sub-Committee for consideration, as it was considered as a multimodal transport issue, which could cause inconsistency with the Model Regulations, with regard to land transport for example.

***ISO 11623:2015 Gas cylinders***

2.7 The Group agreed to replace the reference to the existing ISO standard in SP392 with "ISO 11623:2015 Gas cylinders – Composite construction – Periodic inspection and testing", applicable to the 2018 edition of the IMDG Code publication only and to inform the UN TDG Sub-Committee with a view to harmonization.

***IBC520***

2.8 The Group agreed to insert a comma after "-triperxonane" in the IBC520 packing instruction, as contained in annex 1, and to inform the UN TDG Sub-Committee with the view to harmonization.

## Corrections to the French version of the IMDG Code

2.9 The Group considered annex 1 to document E&T 31/2/3 (France), containing references and editorial corrections to the French version of the IMDG Code (amendment 39-18) and agreed to the draft editorial corrections, as set out in annex 2. In this context, the delegation of France informed the Group that a consolidated version of draft editorial corrections to the French version of the IMDG Code would be prepared after E&T 31, with a view to submission to CCC 6 for further consideration.

### Other proposals

2.10 The Group noted with appreciation the views and proposals contained in document E&T 31/2/4 (ICHCA), and agreed not to take any action at this stage, as the content of the document was considered to:

- .1 require more concrete text proposals for further consideration;
- .2 have implications on other modes of transport, which could require consideration by the UN TDG Sub-Committee first; and
- .3 duplicate some amendment proposals contained in other documents already considered under this agenda item.

2.11 The draft editorial corrections to the amendments to the IMDG Code (amendment 39-18) are contained in annex 1.

## 3 PREPARATION OF DRAFT AMENDMENT 40-20 TO THE IMDG CODE

### Harmonization with the amendments to the UN Recommendations on the transport of dangerous goods, twentieth revised edition

3.1 The Group considered document E&T 31/3 (Secretariat), containing the amendments to the UN Recommendations on the Transport of Dangerous Goods, twentieth revised edition, emanating from the ninth session of the UN Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals, which was held in Geneva on 7 December 2018.

3.2 The Group, taking the above document as the base, prepared the draft amendment 40-20 to the IMDG Code, as set out in annex 3. In so doing, the Group took action as described in the paragraphs hereafter.

#### ***New entry for UN 3549 (Medical Waste, Category A)***

3.3 The Group had a lengthy debate over the appropriate transport provisions for UN 3549 including the suitability of allowing transport of this material by vessel, applicable Special Provisions (SP) and, stowage and handling provisions in the respective columns of the Dangerous Goods List. Taking into account the sensitive characteristic of medical waste, Category A cargoes, the Group discussed the appropriateness of providing vessel transport provisions and authorization for Category A medical waste and noted the following views, inter alia:

- .1 in some instances (e.g. from islands not connected to the mainland) transport by vessel might be required;
- .2 the IMDG Code currently authorized short international voyages for waste aerosols in SP 959, while requiring approvals for long international voyages

- of the same commodity. A new similar SP could be identified for the cargoes carried under UN 3549;
- .3 for long international voyages the approval by the competent authorities involved in the transshipment of this type of cargo could be necessary. Nevertheless, for short international voyages, there should not be any requirement, which could consequentially create additional burden for the Administrations or delay the shipment of these cargoes for disposal;
  - .4 stowage codes SW7 or SW28 could accommodate the need for stowage requirements, as they related to the approval of the competent authorities;
  - .5 regarding the notification of the competent authorities involved, careful consideration should be given to the cases where a long international voyage included one or more ports of call in between the port of departure and the port of arrival;
  - .6 as stated in provision 7.9.1.1 of the Code, only the following parties should be notified for the purposes of this new entry:
    - .1 port State of departure;
    - .2 port State of arrival; and
    - .3 flag State;
  - .7 as mentioned in provision 7.9.2.1 of the Code, authorizations given by one of the Contracting Parties to SOLAS shall be recognized by the other Contracting Parties and this would accommodate the concerns for multiple ports of call in an international voyage; and
  - .8 IMO FAL Form 7-Dangerous Goods Manifest would allow all competent authorities involved to be notified of the dangers of the cargo carried on board.

3.4 In view of the above, the Group considered particular characteristics and associated dangers involved in the carriage of UN 3549 cargoes. In this context, the Group was of the opinion that existing stowage and handling codes "SW2 and "H1", stowage category "E" and segregation code "SG50" would partly accommodate the safety concerns. Additionally, the Group provisionally assigned a new handling code "HX" to ensure that public health and veterinary concerns were sufficiently addressed.

3.5 In this context, the Group looked into the possibility of assigning an existing SP for this entry, nevertheless, the Group agreed that a new "SP9XX" could better accommodate some of the concerns raised in paragraph 3.3 above. The new "SP9XX" was prepared to facilitate the authorization of the transport of this material in short international voyages, and requiring approval from the port State of departure, port State of arrival, and flag State for long international voyages. Since UN 2814 and 2900 were of a similar character, the Group prepared a draft amendment to stowage provisions of these substances and left the text in square brackets for further consideration.

3.6 Consequently, the Group was unable to reach a consensus on the above options for the assignment of an SP, handling and segregation codes, and therefore, agreed to leave the draft text in square brackets in the Dangerous Goods List along with the draft new "SP9XX" and new handling code "HX", as contained in annex 3. Additionally, the Group agreed to invite interested Member States and international organizations to submit relevant proposals to the

next session of the Sub-Committee. Finally, the Group also agreed to invite CCC 6 to advise on the way forward.

### ***Modification to SP274***

3.7 The Group considered the draft amendment to SP274, providing flexibility for UN 3077 and 3082 when indicating the technical name in documentation and package marking for substances that are listed by name in the Dangerous Goods List (e.g. paints or adhesives). During the discussion some members of the Group expressed concerns over a potential contradiction regarding the documentation of marine pollutants in connection with provisions 3.1.2.9.1 and 3.1.2.9.2 of the Code.

3.8 After discussion, in order to address those concerns, the Group agreed to modify provisions 3.1.2.9.1 and 3.1.2.9.2 of the Code in order to exclude the requirement for the indication of a recognized chemical name if the constituent was a generic entry, such as paint. The corresponding draft amendment, as prepared by the Group, is contained in annex 3.

### ***Provisions for labels***

3.9 In considering the amendment to provision 5.2.2.2.1.1.2 of the Code, the Group noted that the colour alignment of the edges of the labels had already been considered in provision 5.2.2.2.2 (Specimen labels) and this paragraph might require an amendment in order to avoid redundancy and maintain consistency with the Model Regulations. Therefore, the Group placed the amendment in square brackets for the time being and invited CCC 6 to consider amending the paragraph, as prepared by the Group, contained in annex 3, with a view to finalization at E&T 32, as appropriate.

### ***New provisions for data loggers and tracking devices***

3.10 The Group considered document E&T 31/3/1 (Germany) together with the relevant part of document E&T 31/3 (Secretariat), regarding the modifications to the new provisions for data loggers and tracking devices contained in section 5.5.4 of the Model Regulations.

3.11 In the ensuing discussion, the following views were expressed, inter alia:

- .1 the proposed amendment should be carefully considered, given the following concerns:
  - .1 the matter could have multimodal implications and therefore, it should first be considered by the UN TDG Sub-Committee;
  - .2 the term "certified type" and the method for certification should be defined in the Code; and
  - .3 the amendment, if agreed, could be introduced in another part other than part 5, e.g. part 7 of the Code;
- .2 as the SOLAS requirement for equipment of a certified safe type is meant for enclosed cargo spaces used in sea transport, other modes of transport should not be of concern;
- .3 potential difficulties for the shippers to be aware of the exact stowage location of a CTU, e.g. on deck or in a cargo hold, should be taken into account;

- .4 a footnote referencing the Recommendations published by the International Electrotechnical Commission could be included, in order to clarify the term "certified type", as is the case in provision 7.3.5 of the Code;
- .5 a transitional period may not be necessary, given that amendment 40-20 is expected to enter into force on 1 January 2022;
- .6 since devices attached to or contained in packages, overpacks, containers or load compartments could be subject to similar risks, the draft amendment should not be restricted to only the devices attached to CTUs;
- .7 the draft amendment is not considered to be linking with the general structure of paragraph 5.5.4.1, thus it could be placed elsewhere;
- .8 in practice, the shipper of non-dangerous goods may not be aware of the necessity to provide information regarding these devices to the master, and therefore, the related part of the text could be left out by simply requiring the devices to be of a certified safe type; and
- .9 packages, CTUs, etc. attached to such equipment may be stowed in cargo areas where electric installations are not required to be of a certified safe type in accordance with SOLAS provisions and that the use of such equipment should be allowed when the carrier has been notified.

3.12 Consequently, in view of the above, the majority of the Group agreed to modify the proposed draft sub-paragraph (d) in provision 5.5.4.1 accordingly with no transitional period, as set out in annex 3, and further agreed to invite interested Member States and international organizations to submit proposals to CCC 6 for further consideration, in particular with respect to the definition of equipment that is of a "certified type" and other types of equipment powered by means other than lithium batteries.

3.13 Finally, noting that the introduction of the draft sub-paragraph (d) deviates from the Model Regulations, the Group agreed to inform the UN TDG Sub-Committee on this matter.

### **Incorporation of proposals agreed in principle at CCC 5**

3.14 The Group recalled that CCC 5 had agreed in principle to proposals as contained in documents CCC 5/6 (annex 6); CCC 5/6/1, CCC 5/6/2 and CCC 5/6/3 (Germany); CCC 5/6/5 and CCC 5/6/6 (France); CCC 5/6/7 (IPPIC) and CCC 5/6/12 (Republic of Korea), which consequently had been referred to E&T 31 for consideration and inclusion in draft amendment 40-20.

3.15 Having considered the above-mentioned documents, the Group prepared the draft amendment 40-20 to the IMDG Code, as set out in annex 3. In so doing, the Group took action as described in the paragraphs hereafter.

### ***Fumigated cargo transport unit (UN 3359)***

3.16 The Group considered annex 6 to document CCC 5/6 (Secretariat), containing a proposal to amend provision 5.5.2.5 in relation to fumigated cargo transport units and agreed to modify the numbering for consistency with the previous amendment, i.e. amendment 39-18, as set out in annex 3.



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**Application of Special Provision 76**

3.17 With regard to the application of SP76, the Group, recalled that CCC 5 had agreed to:

- .1 proposal 1 as contained in paragraph 7 of document CCC 5/6/1 (Germany); and
- .2 proposal 2, in principle, as contained in paragraph 7 of document CCC 5/6/1.

3.18 In this context, the Group considered document E&T 31/3/2 (China), commenting on the proposed amendments to SP76, together with the proposals contained in document CCC 5/6/1 (Germany).

3.19 Taking as a basis proposal 1 and in order to be consistent with other cargoes of a similar character, the Group included "SW5" in column (16a) (Stowage and handling category) of the Dangerous Goods List for some of the entries listed in proposal 2.

3.20 With regard to proposal 3 contained in the document, the Group had a debate over the deletion of SP76 (prohibition of transport except with special authorization) and noted the following views, inter alia:

- .1 since in some countries the transport of these type of cargoes is already prohibited, the proposal should be agreed;
- .2 the cargoes listed in proposal 3 are currently being transported by ships in a safe manner with no records of accidents, thus the proposed deletion is not needed, and a blanket prohibition should be avoided;
- .3 in some countries these types of goods are already transported with the approval of competent authorities and the deletion could cause global inconsistencies;
- .4 these substances are not permitted to be transported in Europe under the provisions of ADR/ADN/RID, and likewise, they should be prohibited from transport by sea due to their severe dangers;
- .5 the proposed amendments to include stowage and handling provisions should be first considered by the UN TDG Sub-Committee, in particular, as packaging requirements for these substances would need to be developed; and
- .6 instead of requiring the special authorization by the competent authority of the country concerned, a tripartite agreement could accommodate the concerns with the prohibition of transport at sea and onward road or rail transport.

3.21 In view of the above, the Group was of the opinion that instead of using SP76, a new "SP9XX" could be identified stating a prohibition for transport with the exception of special authorization granted by the competent authorities (port State of departure, port State of arrival and flag State). Consequently, the Group modified the draft amendments in proposal 3, accordingly. The corresponding draft amendments, as prepared by the Group, are contained in draft amendment 40-20 to the Code, as set out in annex 3.

3.22 The Group considered document CCC 5/6/2 (Germany), proposing a correction to the description in column (17) "Properties and observations" of the Dangerous Goods List for UN 2754 N-ETHYLTOLUIDINES, as these substances did not have flammable properties within the context of the IMDG Code.

3.23 The Group agreed to include the proposed corresponding draft amendment, as set out in annex 3.

#### ***Segregation of ammonium nitrate and chlorates/perchlorates***

3.24 The Group considered document CCC 5/6/3 (Germany), suggesting that the same segregation level, namely "separated from", should be applied to the segregation of ammonium nitrate and chlorates/perchlorates consistently.

3.25 Following discussion on whether including additional stowage and handling categories in the Code would be appropriate and noting that further amendments could require new submissions to the Sub-Committee, the Group agreed to the draft amendment as proposed and without further modification, as set out in annex 3.

#### ***Prohibition on the filling or discharging of portable tanks***

3.26 The Group considered document CCC 5/6/5 (France), proposing draft amendments to sections 4.1.1, 4.1.2 and 4.2.4 of the IMDG Code with regard to the prohibition on the filling or discharging of portable tanks, road tank vehicles and road gas elements vehicles while they remained on board.

3.27 The Group recalled that the delegation of Australia had been of the view that paragraph 4.1.1.21 could be amended with the wording "Packagings including large packagings and IBCs shall not be filled or discharged while they remain on board" (CCC 5/13, paragraph 6.20).

3.28 Therefore, based on the above suggestion, the Group also considered the potential impact of the proposed amendments on the use of salvage packagings and salvage pressure receptacles.

3.29 Finally, noting that, although unlikely, salvage packagings and receptacles could need to be used in special circumstances while they remained on board, the Group agreed to include an exemption statement referring to provisions 4.1.1.18 and 4.1.1.19 of the Code. The corresponding draft amendment, as modified by the Group, is set out in annex 3.

#### ***Multimodal Dangerous Goods Form***

3.30 The Group considered document CCC 5/6/6 (France), proposing draft amendments to provision 5.4.3.2.1 of the IMDG Code in order to keep it consistent with other parts of the Code, e.g. provisions 3.4.6.1 and 3.5.6.1, as adopted by resolution MSC.442(99).

3.31 Following consideration, the Group introduced an editorial correction to the paragraph number and incorporated the corresponding draft amendment 40-20 to the Code, as set out in annex 3.

#### ***Dangerous goods flashpoint information***

3.32 The Group considered document CCC 5/6/7 (IPPIC) proposing clarifications on the requirement for supplementary information on the flashpoint of dangerous goods in provision 5.4.1.4.3.6 of the IMDG Code. The Group recalled the discussion and the views expressed at CCC 5, together with the conclusion of the Sub-Committee that the proposed

draft amendments could be further improved, which had been agreed in principle (CCC 5/13, paragraph 6.24).

3.33 The Group noted the following views:

- .1 a flashpoint would not be applicable to class 4.1 flammable solids;
- .2 proposed amendments should be easy to understand by the shipping lines and shippers when they are applied;
- .3 in order to clearly indicate that a flashpoint was only expected to be provided for goods that met the definition of a class 3 material, a distinction should be made by referring to "liquid dangerous goods having a primary or subsidiary hazard of class 3";
- .4 the intent of the current requirement should be clarified as to whether to require a flashpoint for articles containing class 3 materials, such as vehicles and articles containing dangerous goods (e.g. UN 3363) in class 9; and
- .5 the draft amendments should not be too prescriptive in order to avoid any other type of dangerous goods being left outside the scope of application.

3.34 In view of the above, the Group agreed to modify the draft amendment by referring to liquid dangerous goods having a primary or subsidiary hazard of class 3 and left in square brackets, as set out in annex 3, with the understanding that further submissions could be made to CCC 6 on this matter.

#### ***Special Provision 951***

3.35 The Group considered document CCC 5/6/12 (Republic of Korea), proposing to delete in the Dangerous Goods List, SP951 for UN 1402 CALCIUM CARBIDE and to delete SP951 in chapter 3.3 of the Code.

3.36 Following consideration and noting the concerns and justifications for the proposal as contained in the document, the Group prepared the corresponding draft amendments, as set out in annex 3.

#### ***Clarification of paragraph 7.1.4.4.2 of the IMDG Code***

3.37 The Group recalled that CCC 5, in considering document CCC 5/8/1 (IACS) discussing the need to clarify the terms "life-saving appliances" and "areas with public access" as used in paragraph 7.1.4.4.2 of the IMDG Code, had:

- .1 recognized that the term "life-saving appliances" in paragraph 7.1.4.4.2 of the Code needed further clarification and instructed E&T 31 to further consider this issue and invited interested Member States and international organizations to submit proposals on this matter; and
- .2 noted that there was general support for the interpretation of "areas with public access" as contained in paragraph 6 of document CCC 5/8/1 and decided to proceed with this matter in the form of draft amendments to the IMDG Code by instructing E&T 31 to prepare such draft amendments, based on paragraph 6 to document CCC 5/8/1 (CCC 5/13, paragraphs 8.39 to 8.41).

3.38 Therefore, as instructed by the Sub-Committee, the Group considered the clarification of the above-mentioned terms. Regarding the term "life-saving appliances", the Group noted the following views:

- .1 as described in the document, this term should mean main survival crafts only, since the proximity of cargo holds to the survival crafts other than main ones could cause practical difficulties. For instance, the additional liferafts required by SOLAS (regulations III/31.3.2 and III/31.1.4) are positioned on the forecastle deck, where the distance to cargo hold no.1 cannot meet the requirement of " a horizontal distance of 12 m" and usually dangerous goods of class 1 are carried in cargo hold no.1 equipped with fixed water-based fire-extinguishing systems;
- .2 in case of an emergency, all survival craft should be accessible, therefore this interpretation should not be accepted;
- .3 a definition could be included in the Code for clarification; and
- .4 in the draft interpretation, the text providing examples after the words "such as" could be deleted.

3.39 Following discussion, the Group agreed to the draft interpretation contained in paragraph 5 of document CCC 5/8/1 (IACS) and invited the Sub-Committee to note the above-mentioned views on this matter.

3.40 With regard to the draft interpretation contained in paragraph 6 of the document CCC 5/8/1 (IACS), the Group noted the view that initially, when provision 7.1.4.4.2 of the Code was being drafted, the wording "public access" had been meant for passengers. Following discussion, the Group agreed to bring more clarity to the provision by referring to ship's passengers' access and left the draft amendment in square brackets for the time being, pending further consideration by CCC 6, as contained in annex 3.

### **Consideration of proposals referred to E&T 31 by CCC 5**

3.41 In considering the proposals referred to E&T 31 by CCC 5 for further consideration, the Group took action as described in the paragraphs hereafter.

#### ***Modifications to paragraph 5.4.3.1 of the IMDG Code and draft modifications to the dangerous goods manifest***

3.42 The Group considered document CCC 5/6/4 (France) proposing draft amendments to paragraph 5.4.3.1 of the IMDG Code and draft modifications to the dangerous goods manifest (DGM). The Group recalled that CCC 5 had acknowledged the intention of the submitter to provide more information relating to stowage and handling codes in paragraphs 7.1.5 and 7.1.6, and segregation codes in paragraph 7.2.8.

3.43 The Group further recalled that the Sub-Committee had noted the concerns relating to the possible consequences and effectiveness of the proposal. In this context, the Sub-Committee agreed to forward the issue regarding additional information in the DGM to E&T 31 for further consideration and invited interested Member States and international organizations to make submissions to E&T 31. The Group also noted that no submissions had been received at this session in this regard.

3.44 During the discussion, the Group also noted the following views expressed on this matter:

- .1 although the proposal in the document was considered to be helpful (i.e. communicating to the crew the hazards associated with the carriage of damaged or defective lithium cells and batteries, and those for disposal or recycling), the carrier (master) remains responsible for complying with the safety requirements and, therefore, considering the busy cargo operations for most ships, modifying IMO FAL Form 7 would not be a practical solution;
- .2 instead of amending paragraph 5.4.3.1 of the Code and IMO FAL Form 7, additional "damaged" and "waste" or "disposal" and "recycling" wording could be added which supplements the proper shipping name in the dangerous goods description information to be provided by the consignor to bring clarity for the carrier with regard to the dangers of such cargoes;
- .3 markings on packings containing damaged or defective batteries did not provide sufficient guidance to the persons handling such cargoes, as they were primarily shipped in a CTU;
- .4 multimodal implications should be taken into account when additional information was provided, altering the basic description and additional information; and
- .5 additional information could be identified by utilizing the stowage code SW19 (transport of batteries) referring to SP376 and SP377, similar to provisions in 5.4.1.4.3 regarding waste dangerous goods.

3.45 After discussion, the Group agreed to prepare a new sub-paragraph .7 under provision 5.4.1.4.3 for identifying "Damaged/defective lithium cells or batteries and lithium cells or batteries for disposal or recycling" by referring to SP376 and SP377. The draft amendment as prepared by the Group is set out in annex 3. Additionally, the Group also agreed to inform the UN TDG Sub-Committee of this matter.

#### ***Use of fibre reinforced plastic tanks***

3.46 The Group recalled that CCC 5, in considering document CCC 5/6/9 (Germany) raising concerns on the approval of fibre reinforced plastic (FRP) tanks as IMO type 4 tanks in some countries, had noted the views of several delegations that competent authorities could approve materials other than metals to be used for IMO type 4 tanks, in accordance with paragraph 6.8.3.1.2.1.2 of the IMDG Code. Furthermore, the Sub-Committee agreed to instruct E&T 31 to further consider this matter.

3.47 The Group also recalled that the Sub-Committee had noted that an informal working group regarding FRP tanks had been established by UNSCETDG and that the discussion had been ongoing at the time.

3.48 Moreover, the Group noted the following views expressed on this matter during the discussions at this session:

- .1 as the work of UNSCETDG on the development of requirements for FRP tanks had not yet been finalized, FRP tanks should not be approved by the competent authorities as IMO type 4 tanks until the work was complete;
- .2 the use of FRP tanks was allowed as per chapter 6.9 of the ADR and sufficient justification was contained in section 6.8.3 of the IMDG Code;

- .3 as per provisions 6.8.3.1.2.1.2.3 and 6.8.3.1.2.1.4 of the Code, the competent authorities were allowed to approve such tanks made of materials other than metals subject to an absolute minimum thickness of 3 mm; and
- .4 the applicable calculation methods in provision 6.7.2.4 refer to metallic materials and the formula stipulated therein cannot be used to determine an equivalent thickness of plastics.

3.49 After discussion, the Group agreed that although there were provisions allowing the authorization of FRP tanks as IMO type 4 tanks in the IMDG Code, clearer provisions should be made in the IMDG Code following the outcome of the work at the UN TDG Sub-Committee. In this regard, the Group agreed that the work of UNSCETDG on the development of requirements for FRP tanks should continue to be supported to achieve, as soon as possible, appropriate provisions for the multimodal approval and use of such tanks.

### **Consideration of new proposals submitted to E&T 31**

#### ***Excepted quantities of UN 3527***

3.50 The Group considered document E&T 31/3/3 (China), proposing to replace "E0" with "See SP340" in column 7b in the Dangerous Goods List for UN 3527 in relation to facilitating the transport of excepted quantities of UN 3527 cargoes.

3.51 In considering the document, it was stressed that the issue was potentially an oversight made when adding this UN number to the Dangerous Goods List. Concerns were expressed that these provisions should be uniformly implemented in other regulations (e.g. ICAO TIs and ADR), since the persons involved in the transport chain could choose less stringent measures in excepted quantities, which could then cause disruption for the carriage of such goods in multimodal transport.

3.52 Following discussion, the Group recommended the delegation of China to submit a proposal to the UN TDG Sub-Committee to consider this amendment for a uniform implementation in multimodal transport.

#### ***Transport of non self-inflating liferafts in small quantities***

3.53 The Group considered document E&T 31/3/4 (China), providing information on the difficulties in the transport of a small quantity (no more than 5) of small-sized non self-inflating liferafts (with a capacity of not more than 25 persons), and on the plan of China to study this issue in order to facilitate the transport of such liferafts by developing relevant requirements under the IMDG Code. The submitter also sought comments on the best way forward to benefit the afore-mentioned future submissions.

3.54 In the ensuing discussion, despite the view that no incidents had been recorded in relation to the transport of such goods and that liferafts were normally carried on board ships for life-saving purposes, the Group noted the following views:

- .1 there were various dangerous goods, such as class 1.3G and 1.4D contained in a liferaft such as flares, along with gas cartridges and cylinders, which could pose safety risks as if they were carried individually under conventional regulations;
- .2 considering the various classes of dangerous goods contained in liferafts, they were classified as class 9 cargo when transported in a container;

- 
- .3 liferafts in a container should be sufficiently regulated even though no accidents had been recorded to date regarding liferafts carried on board as survival equipment, which were exposed to the various environmental elements; and
  - .4 currently, liferafts, in addition to other dangerous goods used as ships' stores, such as paints, acetylene and oxygen gases when transported as cargo were subject to the applicable provisions of the Code.

3.55 In view of the above, the Group invited the delegation of China to take note of the comments made during discussion and take action, as they may consider appropriate.

#### **Draft amendment 40-20**

3.56 Subsequently, the Group prepared draft amendment 40-20 to the IMDG Code, as set out in annex 3, for consideration by CCC 6 and subsequent finalization by E&T 32.

## **4 PREPARATION OF DRAFT AMENDMENTS TO IMDG CODE SUPPLEMENT**

### **Consequential amendments to the EmS Guide**

4.1 The Group recalled that MSC 99 had approved MSC.1/Circ.1588 on the *Revised Emergency Response Procedures for Ships Carrying Dangerous Goods* (EmS Guide), containing a consolidated version of the Guide.

4.2 The Group prepared consequential amendments to the Revised EmS Guide emanating from draft amendment 40-20 (see section 3 above) in order to prepare the draft MSC circular containing the corresponding amendments to MSC.1/Circ.1588. The draft amendments prepared by the Group are set out in annex 4.

### **Amendments to the Medical First Aid Guide (MFAG)**

4.3 The Group recalled that CCC 4 had considered document CCC 4/6/8 (Germany) and agreed to the proposed amendments on medication advice under table 19, the use of furosemide and the text of appendix 2 of the MFAG, and that it had decided to hold the finalization of the draft amendments in abeyance until a decision on the use of paracetamol had been made at a future session (CCC 4/12, paragraphs 6.41 and 6.42).

4.4 The Group also recalled that CCC 5 had considered document CCC 5/6/8 (Germany), providing a new proposal on the use of paracetamol, as well as draft amendments to the MFAG, and noted that WHO was due to publish related new medical guidelines. In this context, the Sub-Committee requested the Secretariat to contact WHO in this regard, in order to provide updated information to E&T 31.

4.5 The Group further recalled that CCC 5 had agreed in principle to the proposal in document CCC 5/6/8 (Germany), and decided to refer it to E&T 31 for finalization of the draft amendments to the MFAG, with a view to reporting back to CCC 6 for decision.

4.6 In this regard, having agreed to the proposed amendments to the MFAG as contained in paragraphs 12 to 14 of document CCC 5/6/8 (Germany), the Group noted that WHO informed the IMO Secretariat that there was not any ongoing work in relation to the revision of the ILO/IMO/WHO International Medical Guide for Ships (IMGS) 3rd edition. Therefore, the Group had the following views:

- .1 WHO is the leading agency for medical matters;

- .2 considering that the MFAG is a joint IMO/WHO/ILO publication, it would be appropriate to refer the draft amendments to the MFAG to WHO and ILO for comments (before CCC 6) regarding accuracy and adequacy; and
- .3 it is important to inform WHO and ILO that their comments should be issued before the next session of the Sub-Committee.

4.7 In this context, the Group agreed to request the Secretariat to continue liaising with the Secretariats of WHO and ILO and report the outcome of such consultations to CCC 6.

4.8 The draft amendments to the MFAG, as agreed by the Group, are contained in annex 5.

## **5 ANY OTHER BUSINESS**

5.1 The Group noted that no documents had been submitted under this agenda item.

### **Footnotes-related issues**

5.2 Due to time constraints, the Group was unable to review the footnotes in the IMDG Code, as instructed by CCC 5 (CCC 5/13, paragraph 6.41). The Group agreed that this issue could be considered by E&T 32 together with possible submissions to CCC 6 on this matter.

### **Expression of appreciation**

5.3 The Group, noting with regret that the Chair of the Group, Ms. G. Schwan, was unable to attend the thirty-first session of the Group, agreed to extend its appreciation for her contributions made during the preparation stage of the meeting. The Group also expressed thanks to Mr. S. Webb for stepping in at short notice to chair this session of the Group, which contributed to a successful conclusion of the session.

## **6 ACTION REQUESTED OF THE SUB-COMMITTEE**

- 6.1 The Sub-Committee is invited to approve the report in general and, in particular, to:
- .1 endorse the discussions and deliberations of the Group and agree, in principle, to the draft editorial corrections to the English version of the IMDG Code (amendment 39-18) (paragraphs 2.2 to 2.8, 2.10 and 2.11, and annex 1);
  - .2 agree, in principle, to the draft editorial corrections to the French version of the IMDG Code (amendment 39-18) (paragraph 2.9 and annex 2);
  - .3 endorse the discussions and deliberations of the Group and agree, in principle, to draft amendment 40-20 to the IMDG Code, with a view to subsequent finalization by E&T 32 (paragraphs 3.1 to 3.56 and annex 3);
  - .4 note the views of the Group on assigning a new Special Provision "[SP9XX]" and a draft new handling code "[HX]", for the new entry for UN 3549 (Medical Waste, Category A) and invite interested Member States and international organizations to submit relevant proposals to the next session of the Sub-Committee (paragraphs 3.4 and 3.6 and annex 3);
  - .5 note the discussion and decision of the Group regarding amendment to provision 5.2.2.2.1.1.2 (Provisions for labels) of the Code, with a view to finalization at E&T 32 (paragraph 3.9 and annex 3);



- 
- .6 note the opinion of the Group regarding new provisions for data loggers and tracking devices, and invite interested Member States and international organizations to submit proposals to CCC 6 with respect to the definition of equipment that is of a "certified type" and other types of equipment powered by means other than lithium batteries (paragraphs 3.10 to 3.13);
  - .7 note the views of the Group regarding the draft interpretation of IACS on life-saving appliances and that the Group prepared draft amendment to provision 7.1.4.4.2 of the Code regarding "public access" to life-saving appliances for further consideration by the Sub-Committee (paragraphs 3.38 to 3.40 and annex 3);
  - .8 authorize the Secretariat to inform the UN TDG Sub-Committee to consider several findings identified by the Group, which might have multi-modal transport implications (paragraphs 2.3, 2.5, 2.7, 2.8, 3.13 and 3.45);
  - .9 agree, in principle, to the consequential amendments to the *Revised Emergency Response Procedures for Ships Carrying Dangerous Goods* (EmS) Guide, emanating from draft amendment 40-20 (paragraphs 4.1 and 4.2 and annex 4);
  - .10 note the discussion and opinion of the Group on the draft amendments to the Medical First Aid Guide (MFAG) and approve, in principle, the draft amendments to the MFAG, and request the Secretariat to continue liaising with the Secretariats of WHO and ILO and advise CCC 6 accordingly (paragraphs 4.3 to 4.8 and annex 5);
  - .11 note the decision of the Group regarding the review of the footnotes in the IMDG Code (paragraph 5.2); and
  - .12 transmit the appreciation of the Group to Ms. G. Schwan (Germany) and Mr. S. Webb (United States) for their respective contributions to the work of the E&T Group, in particular at this session (paragraph 5.3).

## ANNEX 1

### DRAFT EDITORIAL CORRECTIONS TO THE ENGLISH VERSION OF THE IMDG CODE AMENDMENT 39-18 ADOPTED BY RESOLUTION MSC. MSC.442(99)

#### PART 2 CLASSIFICATION

##### Chapter 2.2 Class 2 – Gases

###### 2.2.1 Definitions and general provisions

2.2.1.2.3 At the end of paragraph 2.2.1.2.3 delete "or".

##### Chapter 2.4 Class 4 – Flammable solids; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases

###### 2.4.2 Class 4.1 – Flammable solids, self-reactive substances, solid desensitized explosives and polymerizing substances

2.4.2.3.1.2.5 Replace "Aromatic sulphohydrazides" with "Aromatic sulphonylhydrazides".

##### Chapter 2.8 Class 8 – Corrosive substances

###### 2.8.3 Packing group assignment for substances and mixtures

2.8.3.2 Replace "the grouping shall be based" with "the assignment shall be based".

###### 2.8.4 Alternative packing group assignment methods for mixtures: step-wise approach

###### 2.8.4.3 Calculation method based on the classification of the substances

2.8.4.3.3 After the existing text, add the following:

"For this calculation method, generic concentration limits apply where 1% is used in the first step for the assessment of the packing group I substances, and where 5% is used for the other steps respectively."

2.8.4.3.4 Delete the last sentence.

##### Chapter 2.9 Miscellaneous dangerous substances and articles (class 9) and environmentally hazardous substances

###### 2.9.2 Assignment to class 9

2.9.2.2 Under the heading "Lithium batteries", after the entry for 3536 "LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNITS", insert "lithium ion batteries or lithium metal batteries".

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**PART 3**  
**DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND EXCEPTIONS**

**Chapter 3.1**  
**General**

**3.1.4 Segregation groups**

3.1.4.4 Amend the corresponding segregation groups listed as follows:

**7 Heavy metals and their salts (including their organometallic compounds) (SGG7)**

Place the two entries for UN 1931 in the correct alphabetical order:

"UN 1931 Zinc dithionite" then "UN 1931 Zinc hydrosulphite".

**8 Hypochlorites (SGG8)**

For the entry UN 1748, replace the text as follows: "Calcium hypochlorite, dry or calcium hypochlorite mixture, dry with more than 39% available chlorine (8.8% available oxygen)".

**11 Mercury and mercury compounds (SGG11)**

For the entry UN 0135, replace the text as follows: "Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass".

**15 Powdered metals (SGG15)**

For the entry UN 1418, replace the text as follows: "Magnesium powder or magnesium alloys powder".

For the entry UN 3170, replace the text as follows: "Aluminium smelting by-products or aluminium remelting by-products".

**17 Azides (SGG17)**

For the entry UN 0129, replace the text as follows: "Lead azide, wetted with not less than 20% water, or mixture of alcohol and water, by mass".

For the entry UN 0224, replace the text as follows: "Barium azide, dry or wetted with less than 50% water, by mass".

For the entry UN 1571, replace the text as follows: "Barium azide, wetted with not less than 50% water, by mass".

**18 Alkalis (SGG18)**

For the entry UN 2671, replace the text as follows: "Aminopyridines (*o*-, *m*-, *p*-)".

For the entry UN 2678, replace the text as follows: "Rubidium hydroxide".

### Chapter 3.2 Dangerous Goods List

UN No.	Amendment
1011	Delete "392" in column 5 and insert "392" in column 6
1016	Delete "974" in column 5 and insert "974" in column 6
1712	In column 2, replace "and" with "AND"
1748 PG III	In column 16b, add "SGG8"
1758	In column 17, delete the sentence: "In the presence of moisture, highly corrosive to most metals."
2216	In column 6, delete "945"
3090	In column 17, replace "See above" with "Electrical batteries containing lithium encased in a rigid metallic body. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants."
3091	In column 17, replace "See above" with "Electrical lithium batteries containing lithium encased in a rigid metallic body may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants."
3219 PG II	In column 6, insert "900"
3389	In column 17, replace "See entry above." with "A variety of toxic liquids which present a highly toxic inhalation hazard as well as being corrosive. Highly toxic if swallowed, by skin contact or by inhalation."
3543	In column 2, replace the existing proper shipping name to read "ARTICLES CONTAINING A SUBSTANCE WHICH IN CONTACT WITH WATER EMITS FLAMMABLE GASES, N.O.S."

### Chapter 3.3 Special provisions applicable to certain substances, materials or articles

#### Special Provisions

SP188 Move the last two sentences ("When packages are placed in an overpack, the lithium battery mark shall either be clearly visible or be reproduced on the outside of the overpack and the overpack shall be marked with the word "OVERPACK". The lettering of the "OVERPACK" mark shall be at least 12 mm high;") from sub-paragraph .5 to the end of sub-paragraph .6. In sub-paragraphs .7 and .8 replace "Except when batteries" with "Except when cells or batteries".

SP 240 is deleted.

SP392 In the entry for Regulation No. 134, replace the text "Hydrogen and fuel cell vehicles (HFCV)" with the following text:

"Uniform provisions concerning the approval of motor vehicles and their components with regards to the safety-related performance of hydrogen-fuelled vehicles (HFCV)".

**PART 4  
PACKING AND TANK PROVISIONS**

**Chapter 4.1  
Use of packagings, including intermediate bulk containers (IBCs)  
and large packagings**

**4.1.4 List of packing instructions**

**4.1.4.1 Packing instructions concerning the use of packagings (except IBCs and large packagings)**

P206 Amend paragraph (3) as follows:

In the first paragraph, replace "liquefied-gas" with "liquid".

In sub-paragraph (a), replace "liquefied-gas" with "liquid".

In sub-paragraph (d), replace "liquefied-gas" with "liquid".

In sub-paragraph (e), replace "liquefied-gas" with "liquid".

P907 In the second paragraph, second sentence, replace "filling density" with "filling ratio".

P909 In the fourth indent of "Additional requirements" 2 and 3, replace "non-conductive" with "electrically non-conductive".

P910 In the fourth indent of "Additional requirements", replace "non-conductive" with "electrically non-conductive."

**4.1.4.2 Packing instructions concerning the use of IBCs**

IBC08 B21 Replace "For substances, UN Nos. 1374, 2590 and 3535 in IBCs other than metal or rigid plastics IBCs" with "For solid substances in IBCs other than metal or rigid plastics IBCs".

IBC520 For UN 3109, in the column for "Organic peroxide", amend the entries as follows:  
For the entry "*tert*-Butyl peroxyacetate, not more than 32% in diluent type A", add "31A" in "Type of IBC" column and add "1250" in "Maximum quantity (litres)" column.

For the entry "3,6,9-Triethyl-3,6,9-trimethyl-1,4,7-triperoxonane not more than 27% in diluent type A", add ", " after "-triperoxonane".

For UN 3119, replace the sequence of the first two entries as follows:

UN No.		Organic peroxide	Type of IBC	Maximum quantity (litres)	Control temperature	Emergency temperature
3119		<i>tert</i> -Amyl peroxy-2-ethylhexanoate, not more than 62% in	31HA1	1000	+15°C	+20°C

		diluent type A				
		<i>tert</i> -Amyl peroxyvalate, not more than 32% in diluent type A	31A	1250	+10°C	+15°C

#### 4.1.4.3 Packing instructions concerning the use of large packagings

LP905 In the introductory sentence, replace "cells and batteries" with "cells or batteries" (twice).

### Chapter 4.2

#### Use of portable tanks and multiple-element gas containers (MEGCs)

#### 4.2.5 Portable tank instructions and special provisions

##### 4.2.5.3 Portable tank special provisions

TP10 In the second sentence, replace "beyond the date of expiry of the last testing" with "beyond that date".

#### 4.2.6 Additional provisions for the use of road tank vehicles and road gas elements vehicles

4.2.6.2 In the second sentence, replace "and 8" with ",8 and 9".

## PART 5 CONSIGNMENT PROCEDURES

### Chapter 5.1 General provisions

#### 5.1.1 Application and general provisions

5.1.1 Move note from the end to the end of 5.1.1.2.

### Chapter 5.2 Marking and labelling of packages including IBCs

#### 5.2.2 Labelling of packages including IBCs

##### 5.2.2.1 Labelling provisions

##### 5.2.2.1.12 Special provisions for the labelling of radioactive material

5.2.2.1.12.1 Delete the third sentence "Each overpack ... the outside of the overpack".

##### 5.2.2.2 Provisions for labels

5.2.2.2.2 In the table for "Specimen labels":

- .1 for label model No 7A, second column, replace "Category I" with "Category I – WHITE";
- .2 for label model No 7B, second column, replace "Category II" with "Category II – YELLOW"; and

- .3 for label model No 7C, second column, replace "Category III" with "Category III – YELLOW".

## **Chapter 5.4 Documentation**

### **5.4.5 Multimodal Dangerous Goods Form**

- 5.4.5.1 In the third sentence, replace "container packing certificate" with "container/vehicle packing certificate".

## **PART 6 CONSTRUCTION AND TESTING OF PACKAGINGS, INTERMEDIATE BULK CONTAINERS (IBCs), LARGE PACKAGINGS, PORTABLE TANKS, MULTIPLE-ELEMENT GAS CONTAINERS (MEGCs) AND ROAD TANK VEHICLES**

### **Chapter 6.2**

#### **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**

### **6.2.2 Provisions for UN pressure receptacles**

#### **6.2.2.1 Design, construction and initial inspection and test**

- 6.2.2.1.8 For reference "ISO 18172-1:2007", in column "Applicable for manufacture", add "Until further notice".

#### **6.2.2.4 Periodic inspection and test**

- 6.2.2.4 In the tables of standards, move ISO 16111:2008 from the first table to the second table and move ISO 10460:2005 to the first table as second row.

#### **6.2.2.7 Marking of refillable UN pressure receptacles**

- 6.2.2.7.2 In sub-paragraph (c), after "as" insert "indicated by".

- 6.2.2.7.4 In sub-paragraph (n), after "the country of manufacture as" insert "indicated by".

- 6.2.2.7.7 In sub-paragraph (a), after "as" insert "indicated by".

#### **6.2.2.9 Marking of UN metal hydride storage systems**

- 6.2.2.9.2 In sub-paragraph (c), after "as" insert "indicated by" and in sub-paragraph (h), after "country of manufacture as" insert "indicated by".

- 6.2.2.9.4 In sub-paragraph (a), in the first sentence, after "as" insert "indicated by".

## Chapter 6.9

### Provisions for the design, construction, inspection and testing of bulk containers

#### 6.9.5 Requirements for the design, construction, inspection and testing of flexible bulk containers BK3

##### 6.9.5.5 Marking

6.9.5.5.1 In sub-paragraph (e), after "as" insert "indicated by".

## PART 7 PROVISIONS CONCERNING TRANSPORT OPERATIONS

### Chapter 7.1 General stowage provisions

#### 7.1.4 Special stowage provisions

7.1.4.7 In the beginning of the sentence, replace "Substances" with "For substances".

### Chapter 7.2 General segregation provisions

#### 7.2.6 Special segregation provisions and exemptions

7.2.6.4 Replace "7.2.6.3.2.4" with "7.2.6.3.4".

### Appendix A List of generic and N.O.S. proper shipping names

In the table, for class 4.3, for UN 3543, in the column for "Proper shipping name", replace "ARTICLES CONTAINING A SUBSTANCE WHICH EMITS FLAMMABLE GAS IN CONTACT WITH WATER, N.O.S." with "ARTICLES CONTAINING A SUBSTANCE WHICH IN CONTACT WITH WATER EMITS FLAMMABLE GASES, N.O.S.".

## INDEX

Replace "ARTICLES CONTAINING A SUBSTANCE WHICH EMITS FLAMMABLE GAS IN CONTACT WITH WATER, N.O.S." with the following:

"ARTICLES CONTAINING A SUBSTANCE WHICH IN CONTACT WITH WATER EMITS FLAMMABLE GASES, N.O.S."

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## ANNEX 2

### DRAFT EDITORIAL CORRECTIONS TO THE AMENDMENTS TO THE FRENCH VERSION OF THE IMDG CODE (AMENDMENT 39-18) ADOPTED BY RESOLUTION MSC.442(99)

#### PARTIE 2 CLASSIFICATION

##### Chapitre 2.0 Introduction

#### 2.0.5 Transports de déchets

##### 2.0.5.4 Classification des déchets

2.0.5.4.4 Dans la première phrase, remplacer "risque" par "danger".

##### Chapitre 2.2 Classe 2 – Gaz

#### 2.2.1 Définitions et dispositions générales

2.2.1.2 A la fin du 2.2.1.2.4, supprimer "ou".

##### Chapitre 2.8 Classe 8 – Matières corrosives

#### 2.8.4 Autres méthodes pour l'affectation des groupes d'emballage aux mélanges – Approche par étapes

##### 2.8.4.3 Méthode de calcul fondée sur la classification des matières

2.8.4.3.3 Après le texte existant, ajouter le texte suivant :  
"Pour cette méthode de calcul, les limites de concentration génériques s'appliquent lorsque la valeur 1% est utilisée à la première étape de l'évaluation des matières du groupe d'emballage I, puis 5% pour les étapes suivantes."

2.8.4.3.4 Supprimer la dernière phrase.

### PARTIE 3 LISTE DES MARCHANDISES DANGEREUSES, DISPOSITIONS SPÉCIALES ET EXCEPTIONS

#### Chapitre 3.2 Liste des marchandises dangereuses

##### Liste des marchandises dangereuses

1758	Dans la colonne (17), supprimer la phrase : "Très corrosif pour la plupart des métaux en présence d'humidité."
2745	Dans la colonne (16b), supprimer "SG5" et "SG8".

**Chapitre 3.3**  
**Dispositions spéciales applicables à une substance,  
une matière ou à un objet particulier**

- DS 188** Au paragraphe .7 remplacer "sauf lorsque les batteries" par "sauf lorsque les piles ou batteries".
- Au paragraphe .8 remplacer "sauf lorsque les batteries" par "sauf lorsque les piles ou batteries".
- DS 363** Au quatrième tiret de l'alinéa .10 pour les Nos ONU 3528 et 3530, entre la première et la deuxième phrase, remplacer le point-virgule (" ;") par une virgule (",").
- DS 392** Dans la rubrique **Règlement ECE No 134**, remplacer "Véhicules à hydrogène et à pile à combustible (HFCV)" par "Prescriptions uniformes relatives à l'homologation des véhicules automobiles et de leurs composants en ce qui concerne les prescriptions de sécurité des véhicules fonctionnant à l'hydrogène (HFCV)".

**PARTIE 4**  
**DISPOSITIONS RELATIVES À L'UTILISATION  
DES EMBALLAGES ET DES CITERNES**

**Chapitre 4.1**  
**Utilisation des emballages, y compris les grands récipients pour vrac (GRV)  
et les grands emballages**

- 4.1.4** Liste des instructions d'emballage
- 4.1.4.3** Instructions d'emballage concernant l'utilisation des grands emballages

**Instruction d'emballage LP903**

Dans la deuxième phrase, remplacer "les batteries contenant un seul équipement" par "les batteries contenues dans un seul équipement".

**Instruction d'emballage LP905**

Dans phrase d'introduction, remplacer "piles et batteries" par "piles ou batteries" (deux fois).

**PARTIE 5**  
**PROCÉDURES D'EXPÉDITION**

**Chapitre 5.2**  
**Marquage et étiquetage des colis, y compris des GRV**

- 5.2.2** Étiquetage des colis, y compris des GRV
- 5.2.2.1** Dispositions relatives à l'étiquetage
- 5.2.2.1.12** Dispositions spéciales pour l'étiquetage des matières radioactives
- 5.2.2.1.12.1** Supprimer la troisième phrase : "Chaque suremballage ... sur deux côtés opposés."

**PARTIE 7**  
**DISPOSITIONS RELATIVES AUX OPÉRATIONS DE TRANSPORT**

**Chapitre 7.9**  
**Exemptions, approbations et certificats**

**7.9.3 Coordonnées des principales autorités nationales compétentes désignées**

Pour la France, ajouter le texte suivant à la fin :

*"Autorité compétente pour la délivrance des agréments des colis de la classe 7 contenant des matières radioactives :*

Autorité de Sûreté Nucléaire (ASN)  
15, rue Louis Lejeune  
CS 70013  
F-92541 Montrouge Cedex  
FRANCE  
Téléphone : +33 (0)1 46 16 41 09  
Courriel : [dts - transport@asn.fr](mailto:dts-transport@asn.fr)"

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## ANNEX 3<sup>1</sup>

### DRAFT AMENDMENTS TO THE INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG) CODE AMENDMENT 40-20

#### PART 1 GENERAL PROVISIONS, DEFINITIONS AND TRAINING

##### Chapter 1.1 General provisions

##### 1.1.1 Application and implementation of the Code

1.1.1.10 Insert the following new paragraph after 1.1.1.9:

##### **"1.1.1.10 Dangerous goods in equipment in use or intended for use during transport**

For dangerous goods in equipment in use or intended for use during transport, see section 5.5.4."

##### Chapter 1.2 Definitions, units of measurement and abbreviations

##### 1.2.1 Definitions

Insert the following new definition, in alphabetical order:

*"Dose rate* means the ambient dose equivalent or the directional dose equivalent, as appropriate, per unit time, measured at the point of interest".

Replace the existing definition for "*Self-accelerating decomposition temperature (SADT)*" as follows:

*"Self-accelerating decomposition temperature (SADT)* means the lowest temperature at which self-accelerating decomposition may occur in a substance in the packaging, IBC or portable tank as offered for transport. The SADT shall be determined in accordance with the test procedures given in Part II, Section 28 of the Manual of Tests and Criteria."

Delete the entry for "*Radiation level*".

In the definition for "*Transport index*", in the first sentence after "SCO-I", insert "or SCO-III".

In the definition for "*Self-accelerating polymerization temperature (SAPT)*", in the first sentence, insert "self-accelerating" between "which" and "polymerization".

[Note: E&T 32 is expected to revise the definitions of "Manual Test and Criteria" and "GHS" based on the issuance of revisions by UN TDG Sub-Committee.]

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<sup>1</sup> The text highlighted in grey indicates that the text is not final and requires further attention before finalization. The text in [square brackets] is expected to be discussed at the next session of the Group for finalization and should be read in conjunction with the corresponding part of the main body of the report for further clarification.

## Chapter 1.4 Security provisions

### 1.4.3 Provisions for high consequence dangerous goods

#### 1.4.3.1 Definition of high consequence dangerous goods

1.4.3.1.2 In table 1.4.1:

Add the new entries "0512" and "0513" to read as follows:

"Class 1, Division 1.4 UN Nos. 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456, 0500, 0512 and 0513".

Add the following new row after "Class 1, division 1.5":

"Class 1, Division 1.6: explosives".

Amend the line for class 6.2 to read as follows:

"Infectious substances of Category A (UN 2814 and UN 2900) and medical waste of Category A (UN 3549)".

#### 1.4.3.2 Specific security provisions for high consequence dangerous goods

1.4.3.2.3 In footnote 2 adjacent to "The Physical ... Facilities", replace "INFCIRC/225/Rev.4 (corrected), IAEA Vienna (1999)" with "INFCIRC/225/Rev.5, IAEA, Vienna (2011)".

## Chapter 1.5 General provisions concerning radioactive material

### 1.5.1 Scope and application

1.5.1.1 In the first sentence, replace "to persons" with "to people". Amend the second and third sentences to read as follows:

"These provisions are based on the IAEA *Regulations for the Safe Transport of Radioactive Material*, 2018 Edition, *IAEA Safety Standards Series No. SSR-6, (Rev.1) IAEA, Vienna 2018*). Explanatory material can be found in *Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material* (2018 Edition), *Safety Standard Series No. SSG-26, (Rev. 1) IAEA Vienna (2019)*."

1.5.1.2 In the first sentence, replace "persons" with "people" and replace "from the effects of radiation in the transport" with "from harmful effects of ionizing radiation during the transport of radioactive material". In .2, replace "radiation levels" with "dose rate". In the last sentence, replace "Finally" with "Thirdly" and add the following new sentence at the end:

"Finally, further protection is provided by making arrangements for planning and preparing emergency response to protect people, property and the environment."

1.5.1.5.1 In sub-paragraph .1 after "5.2.1.7," add "5.4.1.5.7.1.6.1 and .2, 5.4.1.5.7.1.9," and after "7.1.8.3.1" add "7.1.8.4.3".

1.5.1.5.2 Delete the second sentence.

## **1.5.2 Radiation protection programme**

1.5.2.4 In the last sentence replace "individual monitoring or workplace monitoring" with "workplace monitoring or individual monitoring".

## **1.5.4 Special arrangement**

1.5.4.2 In the second sentence, replace "through alternative means" with "through means alternative to the other provisions of this Code," and replace "for single or a planned series of multiple consignments" with "for a single consignment or a planned series of multiple consignments". In the third sentence, at the end, after "applicable provisions" add "in this Code".

## **1.5.6 Non-compliance**

1.5.6.1 In the introductory sentence, replace "radiation level" with "dose rate". In .2, at the beginning, replace "carrier, consignor or consignee" with "consignor, carrier, or consignee". In .2.3, replace "similar circumstances" with "the causes and circumstances similar to those". In .2.4, replace "on corrective or protective actions" with "the corrective or protective actions".

## **PART 2 CLASSIFICATION**

### **Chapter 2.0 Introduction**

#### **2.0.6 Classification of articles as articles containing dangerous goods N.O.S.**

2.0.6.4 At the end, add the following new sentence "However, this section applies to articles containing explosives which are excluded from Class 1 in accordance with 2.1.3.4.2."

### **Chapter 2.1 Class 1 – Explosives**

#### **2.1.3 Classification procedure**

2.1.3.1 Replace "in accordance with the latest version of the Manual of Tests and Criteria." with "in accordance with the Manual of Tests and Criteria, as amended."

#### **2.1.3.4 Exclusion from class 1**

2.1.3.4.2.2 In the note, delete "such as described in ISO 12097-3" and add the following new sentence:

"One such method is described in ISO 14451-2 using a heating rate of 80 K/min."

#### **2.1.3.5 Assignment of fireworks to hazard divisions**

2.1.3.5.2 In the first sentence, after "or 0336" insert ", and articles to UN 0431 for those used for theatrical effects meeting the definition for article type and 1.4G specification in the default fireworks classification table in 2.1.3.5.5."

## Chapter 2.2

### Class 2 – Gases

#### 2.2.1 Definitions and general provisions

2.2.1.3 Replace "charged with a gas and aerosols" with "charged with a gas, aerosols and chemicals under pressure".

#### 2.2.2 Class subdivisions

Amend the note to read as follows:

**Note:** For UN 1950 AEROSOLS, see also the criteria in special provision 63. For chemicals under pressure of UN Nos. 3500 to 3505, see also special provision 362. For UN 2037 RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) see also special provision 303."

##### 2.2.2.1 Class 2.1 Flammable gases

2.2.2.1.2 Replace "ISO 10156:2010" with "ISO 10156:2017".

##### 2.2.2.2 Class 2.2 Non-flammable, non-toxic gases

2.2.2.2 In the note, replace "ISO 10156:2010" with "ISO 10156:2017".

#### 2.2.3 Mixtures of gases

2.2.3.1 Replace "ISO 10156:2010" with "ISO 10156:2017".

## Chapter 2.4

### Class 4 – Flammable solids; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases

#### 2.4.3 Class 4.2 – Substances liable to spontaneous combustion

##### 2.4.3.2.3 Self-heating substances

2.4.3.2.3.1 In the note, delete "except for type G".

## Chapter 2.5

### Class 5 – Oxidizing substances and organic peroxides

#### 2.5.3 Class 5.2 – Organic peroxides

##### 2.5.3.2 Classification of organic peroxides

2.5.3.2.4 In the table, for UN 3116, delete the entry for "DI-(4-*tert*-BUTYLCYCLOHEXYL) PEROXYDICARBONATE", for concentration " $\leq$  42 as a paste".

For UN 3118, insert the following new entry after the entry "*tert*-BUTYL PEROXYNEODECANOATE":

Number (generic entry)	ORGANIC PEROXIDE	Concentration (%)	Diluent type A (%)	Diluent type B (%)	Inert solid (%)	Water (%)	Packing method	Control temperature (° C)	Emergency temperature (° C)	Subsidiary hazards and remarks
3118	DI-(4- <i>tert</i> -BUTYLCYCLOHEXYL) PEROXYDICARBONATE	≤ 42 (as a paste)					OP8	35	40	

## Chapter 2.6

### Class 6 – Toxic and infectious substances

#### 2.6.1 Definitions

In the definition for "Class 6.2 – Infectious substances", delete ", rickettsiae".

#### 2.6.3 Class 6.2 – Infectious substances

##### 2.6.3.1 Definitions

2.6.3.1.1 Delete ", rickettsiae".

2.6.3.1.6 Amend to read as follows:

*"Medical or clinical wastes* are wastes derived from the veterinary treatment of animals, the medical treatment of humans or from bio-research."

##### 2.6.3.2 Classification of infectious substances

2.6.3.2.1 Replace "or UN 3373" with ", UN 3373 or UN 3549".

2.6.3.2.2.1 In note 3, delete ", mycoplasmas, rickettsia".

##### 2.6.3.2.3 Exemptions

2.6.3.2.3.9.1 In the parenthesis, after "UN 3291" add "and UN 3549".

##### 2.6.3.5 Medical or clinical wastes

2.6.3.5.1 Amend to read as follows:

"2.6.3.5.1 Medical or clinical waste containing:

- .1 Category A infectious substances shall be assigned to UN 2814, UN 2900 or UN 3549 as appropriate. Solid medical waste containing Category A infectious substances generated from the medical treatment of humans or veterinary treatment of animals may be assigned to UN 3549. The UN 3549 entry shall not be used for waste from bio-research or liquid waste;
- .2 Category B infectious substances shall be assigned to UN 3291."



## Chapter 2.7

### Class 7 – Radioactive material

#### 2.7.2 Classification

##### 2.7.2.1 General provisions

2.7.2.1.1 In table 2.7.2.1.1, for UN 2913, in the proper shipping name, replace "SCO-I or SCO-II" with "SCO-I, SCO-II or SCO-III".

##### 2.7.2.2 Determination of activity level

In table 2.7.2.2.1, add the following rows in proper order:

Ba-135m	$2 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Ge-69	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Ir-193m	$4 \times 10^1$	$4 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Ni-57	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Sr-83	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Tb-149	$8 \times 10^{-1}$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Tb-161	$3 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$

In table note (b), at the end of the introductory sentence, add "(the activity to be taken into account is that of the parent nuclide only)". After "Th-nat" and "U-nat", insert a reference to footnote \*. Footnote \* reads: "\*\* In the case of Th-natural, the parent nuclide is Th-232, in the case of U-natural the parent nuclide is U-238".

2.7.2.2.2 In .1, replace "*the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources, Safety Series No.115, IAEA, Vienna (1996)*" with "*Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, IAEA Safety Standards Series No. GSR Part 3, IAEA, Vienna (2014)*"; and in .2, at the end, replace "*the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources, Safety Series No.115, IAEA, Vienna (1996)*" with "GSR Part 3".

2.7.2.2.3 Replace "daughter nuclide" with "progeny nuclide" (twice). At the end, replace "daughter nuclides" with "progeny nuclides".

##### 2.7.2.3 Determination of other material characteristics

2.7.2.3.1.2 In sub-paragraph .3 delete "that meet the requirements of 2.7.2.3.1.3.". Under sub-paragraph .3, delete sub-paragraph .2 and renumber sub-paragraph .3 as .2.

2.7.2.3.1.3 Delete and add "2.7.2.3.1.3 Deleted".

2.7.2.3.2 In the introductory sentence before .1, replace "two" with "three". Add the following new sub-paragraph .3:

.3 SCO-III: A large solid object which, because of its size, cannot be transported in a type of package described in these Regulations and for which:

- .1 All openings are sealed to prevent release of radioactive material during conditions defined in 4.1.9.2.4.5;

- .2 The inside of the object is as dry as practicable;
- .3 The non-fixed contamination on the external surfaces does not exceed the limits specified in 4.1.9.1.2; and
- .4 The non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> does not exceed 8 × 10<sup>5</sup> Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or 8 × 10<sup>4</sup> Bq/cm<sup>2</sup> for all other alpha emitters."

2.7.2.3.3.5.2 After "a free drop of 1.4 kg", replace "through 1 m" with "from a height of 1 m".

2.7.2.3.3.5.3 After "a free vertical drop of 1.4 kg", replace "through 1 m" with "from a height of 1 m".

2.7.2.3.3.7 In sub-paragraph .2, replace "with specimen" with "and the specimen". In sub-paragraph .5, replace "with the specimen" with "and the specimen".

2.7.2.3.3.8 In sub-paragraph .1, in .2, replace "shall be heated" with "shall then be heated".

2.7.2.3.4.1 In sub-paragraph .1, replace "radiation level" with "dose rate".

2.7.2.3.5 In sub-paragraph .5, replace "limits provided in" with "the requirements of".

2.7.2.3.6 At the beginning, replace "A fissile material" with "Fissile material".

#### **2.7.2.4 Classification of packages or unpacked material**

2.7.2.4.1.3 Add additional sub-paragraphs .5 and .6:

"5 Reserved;

- .6 If the package contains fissile material, one of the provisions of sub-paragraphs .1 to .6 of 2.7.2.3.5 shall apply."

2.7.2.4.1.4 Add additional sub-paragraph .3:

- "3 If the package contains fissile material, one of the provisions of sub-paragraphs .1 to .6 of 2.7.2.3.5 shall apply."

and transfer the "and" from the end of sub-paragraph .1 to the end of existing 2.7.2.4.1.4.2.2 as ";and".

2.7.2.4.1.7 Add additional sub-paragraph .5:

- "5 If the packaging has contained fissile material, one of the provisions of sub-paragraphs .1 to .6 of 2.7.2.3.5 or one of the provisions for exclusion in 2.7.1.3 shall apply";

and transfer the "and" from the end of sub-paragraph .3 .2 to the end of .4.

## Chapter 2.8

### Class 8 – Corrosive substances

#### 2.8.3 Packing group assignment for substances and mixtures

2.8.3.2 In the second sentence, replace "the grouping" with "classification" and replace "OECD Test Guideline 404<sup>\*</sup>, or 435<sup>†</sup>" with "OECD Test Guidelines<sup>\*†‡§</sup>". In the third sentence replace "OECD Test Guideline 430<sup>‡</sup>, or 431<sup>§</sup>." with "OECD Test Guidelines<sup>\*†‡§</sup>". Delete the existing footnote § and renumber the current footnote ‡ to §. In the renumbered footnote, add "*Method*" between "*Test*" and "(*TER*)". Insert a new footnote ‡ as follows:

"‡ *OECD Guideline for the testing of chemicals No. 431 "In vitro skin corrosion: reconstructed human epidermis (RHE) test method" 2016*".;

and at the end of the paragraph, add the following new sentence:

"If the in vitro test results indicate that the substance or mixture is corrosive and not assigned to packing group I, but the test method does not allow discrimination between packing groups II and III, it shall be considered to be packing group II".

## Chapter 2.9

### Miscellaneous dangerous substances and articles (class 9) and environmentally hazardous substances

#### 2.9.2 Assignment to class 9

2.9.2.2 Under "Other substances or articles presenting a danger during transport...", after "3359 FUMIGATED CARGO TRANSPORT UNIT", add "3363 DANGEROUS GOODS IN ARTICLES or".

#### 2.9.4 Lithium batteries

2.9.4.7 After "Manufacturers and subsequent distributors of cells or batteries" add "manufactured after 30 June 2003".

## PART 3

### DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND EXCEPTIONS

#### Chapter 3.1

##### General

#### 3.1.2 Proper shipping names

##### 3.1.2.9 Marine pollutants

3.1.2.9.1 Insert the following new paragraph:

"3.1.2.9.1 For the purpose of documentation, the proper shipping name of "not otherwise specified" (N.O.S.) entries which are classified as marine pollutants in accordance with 2.10.3, shall be supplemented with the recognized chemical name of the constituent which most predominantly contributes to the classification as marine pollutant unless otherwise provided by SP274."

3.1.2.9.2 Replace the existing paragraph as follows:

"3.1.2.9.2 An example illustrating the selection of the proper shipping name supplemented with the recognized technical name of goods for such entries are is indicated below:

UN 1993 FLAMMABLE LIQUID, N.O.S. (propyl acetate, di-n-butyltin di-2-ethylhexanoate) class 3 PG III (50°C c.c.) MARINE POLLUTANT".

### Chapter 3.2 Dangerous Goods List

#### Dangerous Goods List

UN No.	Amendment
0005	In column 8, under "P130 add "LP101"
0007	In column 8, under "P130 add "LP101"
0012	In column 8, under "P130 add "LP101"
0014	In column 8, under "P130 add "LP101"
0033	In column 8, under "P130 add "LP101"
0037	In column 8, under "P130 add "LP101"
0136	In column 8, under "P130 add "LP101"
0167	In column 8, under "P130 add "LP101"
0180	In column 8, under "P130 add "LP101"
0238	In column 8, under "P130 add "LP101"
0240	In column 8, under "P130 add "LP101"
0242	In column 8, under "P130 add "LP101"
0279	In column 8, under "P130 add "LP101"
0291	In column 8, under "P130 add "LP101"
0294	In column 8, under "P130 add "LP101"
0295	In column 8, under "P130 add "LP101"
0324	In column 8, under "P130 add "LP101"
0326	In column 8, under "P130 add "LP101"
0327	In column 8, under "P130 add "LP101"
0330	In column 8, under "P130 add "LP101"
0338	In column 8, under "P130 add "LP101"
0339	In column 8, under "P130 add "LP101"
0340	In column 6, insert "393"
0341	In column 6, insert "393"
0342	In column 6, insert "393"
0343	In column 6, insert "393"
0348	In column 8, under "P130 add "LP101"
0369	In column 8, under "P130 add "LP101"
0371	In column 8, under "P130 add "LP101"
0413	In column 8, under "P130 add "LP101"
0414	In column 8, under "P130 add "LP101"
0417	In column 8, under "P130 add "LP101"
0426	In column 8, under "P130 add "LP101"
0427	In column 8, under "P130 add "LP101"
0453	In column 8, under "P130 add "LP101"
0457	In column 8, under "P130 add "LP101"
0458	In column 8, under "P130 add "LP101"
0459	In column 8, under "P130 add "LP101"
0460	In column 8, under "P130 add "LP101"
1002	in column 6, insert "392"
1006	in column 6, insert "392"

UN No.	Amendment
1013	in column 6, insert "392"
1046	in column 6, insert "392"
1056	in column 6, insert "392"
1058	in column 6, insert "392"
1065	in column 6, insert "392"
1066	in column 6, insert "392"
1080	in column 6, insert "392"
1092	in column 11, delete "TP35"
1098	in column 11, delete "TP35"
1135	in column 11, delete "TP37"
1143	in column 11, delete "TP35"
1163	in column 11, delete "TP35"
1182	in column 11, delete "TP37"
1238	in column 11, delete "TP35"
1239	in column 11, delete "TP35"
1244	in column 11, delete "TP35"
1251	in column 11, delete "TP37"
1372	in column 6, delete "117" and insert "123"
1387	in column 6, delete "117" and insert "123"
1402 PG I	In column 6, delete "951"
1402 PG II	In column 6, delete "951"
1541	in column 11, delete "TP37"
1580	in column 11, delete "TP37"
1595	in column 11, delete "TP35"
1605	in column 11, delete "TP37"
1670	in column 11, delete "TP37"
1695	in column 11, delete "TP35"
1752	in column 11, delete "TP35"
1809	in column 11, delete "TP35"
1810	in column 11, delete "TP37"
1834	in column 11, delete "TP37"
1838	in column 11, delete "TP37"
1856	in column 6, delete "117" and insert "123"
1857	in column 6, delete "117" and insert "123"
1892	in column 11, delete "TP37"
1952	in column 6, insert "392"
1956	in column 6, insert "392"
2036	in column 6, insert "392"
2037	In column 6 insert "327" and "959"; in column 8 insert "LP200"; in column 9 insert "PP96" against "P003", insert "L2" against "LP200" and in column 16a, insert "SW22"
2232	in column 11, delete "TP37"
2249 PG I	in column 6, replace "76" with ["9xx"]
2334	in column 11, delete "TP35"
2337	in column 11, delete "TP35"
2381	in column 11, delete "TP39"
2382	in column 11, delete "TP37"
2383	in column 6, delete "386"
2474	in column 11, delete "TP37"
2477	in column 11, delete "TP37"

UN No.	Amendment
2481	in column 11, delete "TP37"
2482	in column 11, delete "TP37"
2483	in column 11, delete "TP37"
2484	in column 11, delete "TP37"
2485	in column 11, delete "TP37"
2486	in column 11, delete "TP37"
2487	in column 11, delete "TP37"
2488	in column 11, delete "TP37"
2521	in column 11, delete "TP37"
2522	in column 2, add ", STABILIZED" at the end and in column (6), add "386"
2555	in column 6, insert "394"
2556	in column 6, insert "394"
2557	in column 6, insert "394"
2605	in column 11, delete "TP37"
2606	in column 11, delete "TP37"
2644	in column 11, delete "TP37"
2646	in column 11, delete "TP35"
2668	in column 11, delete "TP37"
2754	in column 17, delete the word "flammable" in the first sentence
[2814	in column 16a, replace "SW7" with "Category E, SW2, H1, HX" and in column 16b, add "SG50"]
[2900	in column 16a, replace "SW7" with "Category E, SW2, H1, HX" and in column 16b, add "SG50"]
3023	in column 11, delete "TP35"
3070	in column 6, insert "392"
3079	in column 11, delete "TP37"
3091	in column 6, insert "390"
3097 PG II	in column 6, replace "76" with ["9xx"]
3097 PG III	in column 6, replace "76" with ["9xx"]
3100 PG I	in column 6, replace "76" with ["9xx"]
3100 PG II	in column 6, replace "76" with ["9xx"]
3121 PG I	in column 6, replace "76" with ["9xx"]
3121 PG II	in column 6, replace "76" with ["9xx"]
3126 PG II	in column 6, delete "76"
3126 PG III	in column 6, delete "76"
3127 PG II	in column 6, replace "76" with ["9xx"]
3127 PG III	in column 6, replace "76" with ["9xx"]
3128 PG II	in column 6, delete "76"
3128 PG III	in column 6, delete "76"
3129 PG I	in column 6, delete "76"

UN No.	Amendment
3129 PG II	in column 6, delete "76"
3129 PG III	in column 6, delete "76" and in column 16a, insert "SW5"
3130 PG I	in column 6, delete "76"
3130 PG II	in column 6, delete "76"
3130 PG III	in column 6, delete "76"
3131 PG I	in column 6, delete "76"
3131 PG II	in column 6, delete "76"
3131 PG III	in column 6, delete "76"
3132 PG I	in column 6, delete "76", in column 16a insert "Category D"
3132 PG II	in column 6, delete "76", in column 16a insert "Category E" and "SW5"
3132 PG III	in column 6, delete "76", in column 16a insert "Category E" and "SW5"
3133 PG II	in column 6, replace "76" with ["9xx"]
3133 PG III	in column 6, replace "76" with ["9xx"]
3135 PG I	in column 6, delete "76", in column 16a insert "Category D"
3135 PG II	in column 6, delete "76", in column 16a insert "Category E" and "SW5"
3135 PG III	in column 6, delete "76", in column 16a insert "Category E" and "SW5"
3137 PG I	in column 6, replace "76" with ["9xx"]
3148	in column 11, delete "TP38"
3163	in column 6, insert "392"
3164	in column 9, add "PP32"
3246	in column 11, delete "TP37"
3255 PG I	in column 6, replace "76" with ["9xx"]
3291	in column 5, delete "II"
3297	in column 6, insert "392"
3298	in column 6, insert "392"
3299	in column 6, insert "392"
3360	in column 6, delete "117" and insert "123"
3363	in column 2, at the beginning of the description, add "DANGEROUS GOODS IN ARTICLES or"
3380	in column 6, insert "394"
3481	in column 6, insert "390"
3500	In column 9, insert "PP97" against "P206"
3529	in column 6, add "356"

Add the following new entries to the Dangerous Goods List:

(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16a)	(16b)	(17)
0511	DETONATORS, ELECTRONIC programmable for blasting	1.1 B	-	-	-	0	E0	P131	-	-	-	-	-	-	F-B,S-X	Category 05 SW1	-	See glossary of terms in appendix B.
0512	DETONATORS, ELECTRONIC programmable for blasting	1.4 B	-	-	-	0	E0	P131	-	-	-	-	-	-	F-B,S-X	Category 05 SW1	-	See glossary of terms in appendix B.
0513	DETONATORS, ELECTRONIC programmable for blasting	1.4 S	-	-	347	0	E0	P131	-	-	-	-	-	-	F-B,S-X	Category 01 SW1	-	See glossary of terms in appendix B.
3549	MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid	6.2			395 [9XX]	0	E0	P622 LP622	-	-	-	-	-	-	F-A, S-T	[Category E] [SW2] [H1] [HX]	[SG50]	



### Chapter 3.3

#### Special provisions applicable to certain substances, materials or articles

- SP172 In paragraph .4, replace "subsidiary class or division" with "class or division of the subsidiary hazard".
- SP239 Delete the last sentence.
- [SP274 At the end, add the following new paragraphs:
- "For UN 3077 and UN 3082 only, the technical name may be a name shown in capital letters in column 2 of the Dangerous Goods List, provided that this name does not include "N.O.S." and that special provision 274 is not assigned. The name which most appropriately describes the substance or mixture shall be used, e.g.:
- UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S., (PAINT)
- UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S., (PERFUMERY PRODUCTS).]
- SP301 In the first sentence, replace "machinery or apparatus" with "articles such as machinery, apparatus or devices". In the second, third, fourth and fifth sentences and in the last sentence, replace "machinery or apparatus" with "articles".
- SP309 In the last paragraph, replace "satisfactorily pass Tests 8(a), (b) and (c)" with "satisfy the criteria for classification as an ANE".
- SP327 In the first sentence, replace "Waste aerosols consigned" with "Waste aerosols and waste gas cartridges consigned" and "transported under this entry for" with "transported under UN 1950 or UN 2037, as appropriate, for". After the third sentence insert the following new sentence:
- "Waste gas cartridges, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003 and special packing provisions PP17 and PP96, or packing instruction LP200 and special packing provision L2".
- In the following sentence, replace "aerosols shall be transported in salvage packagings" with "aerosols and gas cartridges shall be transported in salvage pressure receptacles, or salvage packagings"; and in the last sentence, replace "Waste aerosols shall not" with "Waste aerosols and waste gas cartridges shall not".
- Add the following new paragraph at the end:
- "Waste gas cartridges that were filled with gases of class 2.2 and have been pierced are not subject to this Code."
- SP356 After "in vehicle, vessels" add ", machinery, engines" (twice). Replace "aircrafts" with "aircraft" (twice).
- SP360 Replace "consigned under" with "assigned to" and add the following sentence at the end:

"Lithium batteries installed in cargo transport units, designed only to provide power external to the transport unit shall be assigned to entry UN 3536 LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT".

SP363 In paragraph .10, in the third paragraph, delete "in accordance with 5.3.1.1.2" and add the following new sentence at the end: "Placards shall correspond to the class indicated in Column 3 of the Dangerous Goods List of Chapter 3.2 and shall conform to the specifications given in 5.3.1.2.1;".

SP363 In paragraph .11, In the last paragraph, delete "in accordance with 5.3.1.1.2" and add the following new sentence at the end: "Placards shall correspond to the class indicated in Column 3 of the Dangerous Goods List in Chapter 3.2 and shall conform to the specifications given in 5.3.1.2.1;"

SP370 Amend the first sentence to read as follows:

"This entry only applies to ammonium nitrate that meets one of the following criteria:" and at the end of the first indent, replace "and" with "or".

add the following new paragraph at the end, after the indents:

"This entry shall not be used for ammonium nitrate for which a proper shipping name already exists in the Dangerous Goods List of Chapter 3.2 including ammonium nitrate mixed with fuel oil (ANFO) or any of the commercial grades of ammonium nitrate".

SP376 Amend the note to read as follows:

**Note:** In assessing a cell or battery as damaged or defective, an assessment or evaluation shall be performed based on safety criteria from the cell, battery or product manufacturer or by a technical expert with knowledge of the cell's or battery's safety features. An assessment or evaluation may include, but is not limited to, the following criteria:

- (a) Acute hazard, such as gas, fire or electrolyte leaking;
- (b) The use or misuse of the cell or battery;
- (c) Signs of physical damage, such as deformation to cell or battery casing, or colours on the casing;
- (d) External and internal short circuit protection, such as voltage or isolation measures;
- (e) The condition of the cell or battery safety features; or
- (f) Damage to any internal safety components, such as the battery management system."

SP379 In paragraph .4 .1 replace "ISO 11114-1:2012" with "ISO 11114-1:2012 + Amd 1:2017".

SP388 At the end of the seventh paragraph, add the following sentence:

"Lithium ion batteries or lithium metal batteries installed in a cargo transport unit and designed only to provide power external to the cargo transport unit shall be assigned to the entry UN 3536 LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT lithium ion batteries or lithium metal batteries."

SP951 is deleted.

SP959 Insert "or waste gas cartridges" after "Waste aerosols".

Add the following new special provisions:

"123 Only regulated when transported by air or by sea."

"390 When a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment, the following requirements apply for the purposes of package marking and documentation:

.1 the package shall be marked "UN 3091 Lithium metal batteries packed with equipment", or "UN 3481 Lithium ion batteries packed with equipment", as appropriate. If a package contains both lithium ion batteries and lithium metal batteries packed with and contained in equipment, the package shall be marked as required for both battery types. However, button cell batteries installed in equipment (including circuit boards) need not be considered.

.2 the transport document shall indicate "UN 3091 Lithium metal batteries packed with equipment" or "UN 3481 Lithium ion batteries packed with equipment", as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, then the transport document shall indicate both "UN 3091 Lithium metal batteries packed with equipment" and "UN 3481 Lithium ion batteries packed with equipment".

"393 The nitrocellulose shall meet the criteria of the Bergmann-Junk test or methyl violet paper test in the Manual of Tests and Criteria Appendix 10. Tests of type 3 (c) need not be applied."

"394 The nitrocellulose shall meet the criteria of the Bergmann-Junk test or methyl violet paper test in the Manual of Tests and Criteria Appendix 10."

"395 This entry shall only be used for solid medical waste of Category A transported for disposal."

["9XX MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid shall only be transported on short international voyages. Long international voyages are authorized only with the approval of the competent authorities of the port State of departure, port State of arrival and flag State.]"

["9XX The transport of this substance shall be prohibited except with the approval of the competent authorities of the port State of departure, port State of arrival and flag State.";

and delete SP76.]

## PART 4 PACKING AND TANK PROVISIONS

### Chapter 4.1 Use of packagings, including intermediate bulk containers (IBCs) and large packagings

#### 4.1.1 General provisions for the packing of dangerous goods in packagings, including IBCs and large packagings

4.1.1 In the note, replace "(class 6.2)" with "(class 6.2, UN 2814 and UN 2900)". Amend the end of the sentence to read "(P201 and LP02 for Class 2 and P620, P621, P622, IBC620, LP621 and LP622 for class 6.2)."

4.1.1.3 Add a new sub-paragraph.1 to read as follows:

".1 Packagings, including IBCs and large packagings, may conform to one or more than one successfully tested design type and may bear more than one mark."

4.1.1.21 Insert the following new paragraph:

"Except as provided in 4.1.1.18 and 4.1.1.19, packagings including large packagings and IBCs shall not be filled or discharged while they remain on board."

#### 4.1.4 List of packing instructions

##### 4.1.4.1 Packing instructions concerning the use of packings (except IBCs and large packagings)

P003 For packing instruction PP32, after "3358", add "and robust articles consigned under UN 3164".

P003 Add the following new special packing provision:

"PP96 For UN 2037 waste gas cartridges transported in accordance with special provision 327, the packagings shall be adequately ventilated to prevent the creation of dangerous atmospheres and the build-up of pressure."

P200 In sub-paragraph (3)(c), in the first sentence, delete "(filling factor)".

In paragraph(4), replace the reference on the last line to "ISO 24431:2006 Gas cylinders – Cylinders for compressed and liquefied gases (excluding acetylene) – Inspection at time of filling" with "ISO 24431:2016 Gas cylinders – Seamless, welded and composite cylinders for compressed and liquefied gases (excluding acetylene) – Inspection at time of filling".

In table 2, for the following UN Numbers, in column "LC50 in ml/m<sup>3</sup>" replace the values as follows:

UN No.	Amendment
1859	replace "450" with "922"
2188	replace "20" with "178"
2202	replace "2" with "51"

2534	replace "600" with "2810"
2676	replace "20" with "178"

- P206 In the title of the last row of the packing instruction, replace "Special packing provision" with "Special packing provisions". Add the following new special packing provision:
- "PP97 For fire extinguishing agents assigned to UN 3500 the maximum test period for periodic inspection shall be 10 years. They may be transported in tubes of a maximum water capacity of 450 L conforming to the applicable requirements of chapter 6.2."
- P207 In special packing provision PP87, replace "flammable atmosphere" with "dangerous atmospheres".
- P301 In the last sentence of paragraphs (1) and (2) replace "unit" with "primary containment".
- P400 In paragraphs (2) and (3), in the first sentence: delete "threaded". After the first sentence insert the following new sentence:
- "Inner packagings shall have threaded closures or closures physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transport."
- P404 In paragraph (1), under "Inner packagings" in the first paragraph delete "and have threaded closures". In the second paragraph delete "threaded". Add the following new third paragraph before the last sentence ("Outer packagings...125 kg"):
- "Inner packagings shall have threaded closures or closures physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transport",
- and in paragraph (2) insert ", 1B2" between ", 1B1" and ", 1N1".
- LP200 In the introductory sentence, replace "UN No. 1950" with "UN 1950 and UN 2037". In the next paragraph, replace "are authorized for aerosols" with "are authorized for aerosols and gas cartridges".
- In the first sentence of special packing provision L2, after "dangerous movement" delete "of the aerosols". Amend the last sentence to read: "For waste aerosols and waste gas cartridges carried in accordance with special provision 327, the large packagings shall be adequately ventilated to prevent the creation of dangerous atmospheres and the build-up of pressure."

Add the following new packing instruction P622:

<b>P622</b>	<b>PACKING INSTRUCTION</b>		<b>P622</b>
This instruction applies to waste of UN 3549 transported for disposal.			
The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:			
<b>Inner packagings</b>	<b>Intermediate packagings</b>	<b>Outer packagings</b>	

metal plastics	metal plastics	<b>Boxes</b> steel (4A) aluminium (4B) plywood (4D) fibreboard (4G) other metal (4N) plastics, solid (4H2) <b>Drums</b> steel (1A2) aluminium (1B2) plywood (1D) fibre (1G) other metal (1N2) plastics (1H2) <b>Jerricans</b> steel (3A2) aluminium (3B2) plastics (3H2)
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The outer packaging shall conform to the packing group I performance level for solids.

**Additional requirements:**

1. Fragile articles shall be contained in either a rigid inner packaging or rigid intermediate packagings.
2. Inner packagings containing sharp objects such as broken glass and needles shall be rigid and resistant to puncture.
3. The inner packaging, the intermediate packaging and the outer packaging shall be capable of retaining liquids. Outer packagings that are not capable of retaining liquids by design shall be fitted with a liner or suitable measure of retaining liquids.
4. The inner packaging and/or the intermediate packaging may be flexible. When flexible packagings are used, they shall be capable of passing the impact resistance test to at least 165 g according to ISO 7765-1:1988 "Plastics film and sheeting – Determination of impact resistance by the free-falling dart method – Part 1: Staircase methods" and the tear resistance test to at least 480 g in both parallel and perpendicular planes with respect to the length of the bag in accordance with ISO 6383-2:1983 "Plastics – Film and sheeting – Determination of tear resistance – Part 2: Elmendorf method". The maximum net mass of each flexible inner packaging shall be 30kg.
5. Each flexible intermediate packaging shall contain only one inner packaging.
6. Inner packagings containing a small amount of free liquid may be included in intermediate packaging provided that there is sufficient absorbent or solidifying material in the inner or intermediate packaging to absorb or solidify all the liquid content present. Suitable absorbent material which may withstand the temperatures and vibrations liable to occur under normal conditions of transport shall be used.
7. Intermediate packagings shall be secured in outer packagings with suitable cushioning and/or absorbent material.

Replace the existing packing instruction P801 with the following:

<b>P801</b>	<b>PACKING INSTRUCTION</b>	<b>P801</b>
This instruction applies to UN Nos. 2794, 2795 or 3028.		

The following packagings are authorized, provided that the provisions of 4.1.1.1, 4.1.1.2, 4.1.1.6, and 4.1.3 are met:

(1) Rigid outer packagings, wooden slatted crates or pallets.

Additionally, the following conditions shall be met:

- (a) Batteries' stacks shall be in tiers separated by a layer of electrically non-conductive material;
- (b) Battery terminals shall not support the weight of other superimposed elements;
- (c) Batteries shall be packaged or secured to prevent inadvertent movement;
- (d) Batteries shall not leak under normal conditions of transport or appropriate measures shall be taken to prevent the release of electrolyte from the package (e.g. individually packaging batteries or other equally effective methods); and
- (e) Batteries shall be protected against short circuits.

(2) Stainless steel or plastics bins may also be used to transport used batteries.

Additionally, the following conditions shall be met:

- (a) The bins shall be resistant to the electrolyte that was contained in the batteries;
- (b) The bins shall not be filled to a height greater than the height of their sides;
- (c) The outside of the bins shall be free of residues of electrolyte contained in the batteries;
- (d) Under normal conditions of transport, no electrolyte shall leak from the bins;
- (e) Measures shall be taken to ensure that filled bins cannot lose their content; and
- (f) Measures shall be taken to prevent short circuits (e.g. batteries are discharged, individual protection of the battery terminals, etc.).

P903 Add the following new paragraph (5):

"(5) For packaging containing both cells or batteries packed with equipment and contained in equipment:

- (a) For cells and batteries, packagings that completely enclose the cells or batteries, then placed with equipment in a packaging conforming to the requirements in paragraph (1) of this packing instruction; or
- (b) Packagings conforming to the requirements in paragraph (1) of this packing instruction, then placed with the equipment in a strong outer packaging constructed of suitable material, and of adequate strength and design in relation to the packaging capacity and its intended use. The outer packaging shall be constructed in such a manner as to prevent accidental operation during transport and need not meet the requirements of 4.1.1.3.

The equipment shall be secured against movement within the outer packaging. Devices such as radio frequency identification (RFID) tags, watches and temperature loggers, which are not capable of generating a dangerous evolution of heat, may be transported when intentionally active in strong outer packagings. When active, these devices shall meet defined standards for electromagnetic radiation to ensure that the operation of the devices does not interfere with aircraft systems".

P907 Replace the introductory sentence with: "This packing instruction applies to articles, such as machinery, apparatus or devices of UN No. 3363.". In the text after the introductory paragraph, in the first sentence, replace "machinery or

apparatus" with "article". In the second sentence replace "machinery or apparatus" with "an article". In the fifth sentence replace "machinery or apparatus" with "article". In the sixth sentence replace "machinery or apparatus" with "article".

#### 4.1.4.2 Packing instructions concerning the use of IBCs

IBC520 For UN No.3119, insert the two following new entries:

UN No.	Organic peroxide	Type of IBC	Maximum quantity (litres)	Control temperature	Emergency temperature
3119	<i>tert</i> -Amyl peroxyvalate, not more than 42% as a stable dispersion in water	31HA1	1 000	0 °C	+10 °C
3119	<i>tert</i> -Butyl peroxyvalate, not more than 42% in a diluent type A	31HA1 31A	1 000 1 250	+10 °C +10 °C	+15 °C +15 °C

#### 4.1.4.3 Packing instructions concerning the use of large packagings

Add the following new packing instruction LP622:

LP622 PACKING INSTRUCTION LP622		
This instruction applies to waste of UN 3549 transported for disposal.		
The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:		
Inner packagings	Intermediate packagings	Outer packagings
metal plastics	metal plastics	metal other than steel or aluminium (50N) plywood (50D) rigid fibreboard (50G) other metal (50N) rigid plastics (50H)
The outer packaging shall conform to the packing group I performance level for solids.		



**Additional requirement:**

1. Fragile articles shall be contained in either a rigid inner packaging or a rigid intermediate packagings.
2. Inner packagings containing sharps objects such as broken glass and needles shall be rigid and resistant to puncture.
3. The inner packaging, the intermediate packaging and the outer packaging shall be capable of retaining liquids. Outer packagings that are not capable of retaining liquids by design shall be fitted with a liner or suitable measure of retaining liquids.
4. The inner packaging and/or the intermediate packaging may be flexible. When flexible packagings are used, they shall be capable of passing the impact resistance test to at least 165g according to ISO 7765-1:1988 "Plastics film and sheeting – Determination of impact resistance by the free-falling dart method – Part 1: Staircase methods" and the tear resistance test to at least 480g in both parallel and perpendicular planes with respect to the length of the bag in accordance with ISO 6383-2:1983 "Plastics – Film and sheeting – Determination of tear resistance – Part 2: Elmendorf method". The maximum net mass of each flexible inner packaging shall be 30kg.
5. Each flexible intermediate packaging shall contain only one inner packaging.
6. Inner packagings containing a small amount of free liquid may be included in intermediate packaging provided that there is sufficient absorbent or solidifying material in the inner or intermediate packaging to absorb or solidify all the liquid content present. Suitable absorbent material which ~~may~~ withstands the temperatures and vibrations liable to occur under normal conditions of transport shall be used.
7. Intermediate packagings shall be secured in outer packagings with suitable cushioning and/or absorbent material.

**4.1.6 Special packing provisions for goods of class 2**

4.1.6.1.2 Replace "ISO 11114-1:2012" with "ISO 11114-1:2012 + Amd 1:2017"

4.1.6.1.8 In the second sentence of the penultimate paragraph replace "annex A of ISO 10297:2006 or annex A of ISO 10297:2014" with "annex A of ISO 10297:2006, annex A of ISO 10297:2014 or annex A of ISO 10297 + Amd 1:2017. For pressure receptacles with self-closing valves with inherent protection, the requirements of annex A of ISO 17879:2017 shall be met."

**4.1.9 Special packing provisions for radioactive material****4.1.9.1 General**

4.1.9.1.4 Add at the end the following new sentence: "This requirement does not apply to the internal surfaces of freight containers being used as packagings, either loaded or empty".

4.1.9.1.8 Add additional sub-paragraph .5:

- ".5 For packages intended to be used for shipment after storage, it shall be ensured that all packaging components and radioactive contents have been maintained during storage in a manner such that all the requirements specified in the relevant provisions of this Code and in the applicable certificates of approval have been fulfilled".

**4.1.9.2 Provisions and controls for transport of LSA material and SCO**

4.1.9.2.4 In the introductory sentence, replace "and SCO-I" with ", SCO-I and SCO-III". Add the following new sub-paragraph .5:

".5 For SCO-III;

- .1 Transport shall be under exclusive use by road, rail, inland waterway or sea;
- .2 Stacking shall not be permitted;
- .3 All activities associated with the shipment, including radiation protection, emergency response and any special precautions or special administrative or operational controls that are to be employed during transport shall be described in a transport plan. The transport plan shall demonstrate that the overall level of safety in transport is at least equivalent to that which would be provided if the requirements of 6.4.7.14 (only for the test specified in 6.4.15.6, preceded by the tests specified in 6.4.15.2 and 6.4.15.3 had been met.
- .4 The requirements of 6.4.5.1 and 6.4.5.2 for a Type IP-2 package shall be satisfied, except that the maximum damage referred to in 6.4.15.4 may be determined based on provisions in the transport plan, and the requirements of 6.4.15.5 are not applicable.
- .5 The object and any shielding are secured to the conveyance in accordance with 6.4.2.1.
- .6 The shipment shall be subject to multilateral approval".

**Chapter 4.2****Use of portable tanks and multiple-element gas containers (MEGCs)****4.2.3 General provisions for the use of portable tanks for the transport of refrigerated liquefied gases of class 2****4.2.3.7 Actual holding time**

4.2.3.7.3 Add a new paragraph as follows:

"4.2.3.7.3 The date at which the actual holding time ends shall be entered in the transport document (see 5.4.1.5.13)".

**4.2.4 General provisions for the use of multiple-element gas containers (MEGCs)****4.2.4.5 Filling**

4.2.4.5.7 Add a new paragraph as follows:

"4.2.4.5.7 Multiple-element gas containers (MEGCs) shall not be filled or discharged while they remain on board."

**4.2.5 Portable tank instructions and special provisions****4.2.5.3 Portable tank special provisions**

TP19 Amend to read as follows:

"TP19 At the time of construction, the minimum shell thickness determined according to 6.7.3.4 shall be increased by 3 mm as a corrosion allowance. Shell thickness shall be verified ultrasonically at intervals midway between periodic hydraulic tests and shall never be lower than the minimum shell thickness determined according to 6.7.3.4."

Delete portable tank instructions TP35, TP37, TP38 and TP39 and add "Deleted".

**PART 5  
CONSIGNMENT PROCEDURES**

**Chapter 5.1  
General provisions**

**5.1.5 General provisions for class 7****5.1.5.1 Approval of shipments and notification**

5.1.5.1.2 Add additional sub-paragraph .5:

".5 The shipment of SCO-III.",

and transfer the "and" from the end of sub-paragraph .3 to the end of sub-paragraph .4.

5.1.5.1.4.2 At the end, replace "in the hands" with "in the possession".

**5.1.5.3 Determination of transport index (TI) and criticality safety index (CSI)**

5.1.5.3.1 In the introductory sentence, replace "or SCO-I" with "SCO-I or SCO-III". In .1, replace "radiation level" with "dose rate" (twice) and replace "and SCO-I" with ", SCO-I or SCO-III". In .2 replace "and SCO-I" with ", SCO-I and SCO-III". At the end of .3, add "and the resulting number is the TI value (without unit)".

In table 5.1.5.3.1, in the title, replace "and SCO-I" with ", SCO-I and SCO-III".

5.1.5.3.2 Replace the existing 5.1.5.3.2 with the following:

"The TI for each rigid overpack, freight container or conveyance shall be determined as the sum of the TIs of all the packages contained therein. For a shipment from a single consignor, the consignor may determine the TI by direct measurement of dose rate.

The TI for a non-rigid overpack shall be determined only as the sum of the TIs of all the packages within the overpack."

5.1.5.3.4 In .2 replace "transport index" with "TI".

## Chapter 5.2 Marking and labelling of packages including IBCs

### 5.2.1 Marking of packages including IBCs

5.2.1.1 Amend the end of the second sentence to read as follows:

"...for cylinders of 60 litres water capacity or less when they shall be at least 6 mm in height and except for packages of 5 litres capacity or less or of 5 kg maximum net mass when they shall be of an appropriate size."

### 5.2.1.5 Special marking provisions for radioactive material

5.2.1.5.6 Add the following sentence at the end:

"Any mark on the package made in accordance with the requirements of 5.2.1.5.4.1 and .2 and 5.2.1.5.5.3 relating to the package type that does not relate to the UN number and proper shipping name assigned to the consignment shall be removed or covered."

### 5.2.1.10 Lithium battery mark

5.2.1.10.2 In the figure "Lithium battery mark", replace "120 mm" with "100 mm" and "110 mm" with "100 mm". In the last paragraph in the first sentence, replace "a rectangle" with "a rectangle or a square". In the second sentence replace "120 wide x 110 m high" with "100 mm wide x 100 mm high". In the fourth sentence delete "/line thickness" and replace "105 mm wide x 74 mm high" with "100 mm wide x 70 mm high".

## 5.2.2 Labelling of packages including IBCs

### 5.2.2.1 Labelling provisions

5.2.2.1.12.2 In sub-paragraph .4, replace "(no transport index entry is required for category I-WHITE)" with "(except for category I-WHITE)".

### 5.2.2.2 Provisions for labels

[5.2.2.2.1.1.2 Delete the fourth sentence "The line .... bottom corner." in the paragraph.]

## Chapter 5.3 Placarding and marking of cargo transport units

### 5.3.1 Placarding

#### 5.3.1.1 Placarding provisions

5.3.1.1.5.1 After "Large freight containers carrying" add "unpackaged LSA-I material or SCO-I or".

### 5.3.2 Marking

#### 5.3.2.1 Display of UN numbers

5.3.2.1.1 In sub-paragraph .3, replace "LSA-1 or SCO-1 material" with "LSA-I material, SCO-I or SCO-III".

## Chapter 5.4 Documentation

### 5.4.1 Dangerous goods transport information

#### 5.4.1.4 Information required on the dangerous goods transport document

5.4.1.4.3 Amend the sub-paragraph .6 as follows:

".6 *Flashpoint.* If the [liquid] dangerous goods to be transported have [a primary or subsidiary hazard of class 3 and] a flashpoint of 60°C or below (in °C closed-cup (c.c.)), the minimum flashpoint shall be indicated. Because of the presence of impurities, the flashpoint may be lower or higher than the reference temperature indicated in the Dangerous Goods List for the substance. "

Add a new sub-paragraph .7 as follows:

".7 *Damaged/defective lithium cells or batteries and lithium cells or batteries for disposal or recycling:* When lithium cells or batteries are offered for transport under special provision 376 or special provision 377, "DAMAGED/DEFECTIVE", "LITHIUM BATTERIES FOR DISPOSAL" or "LITHIUM BATTERIES FOR RECYCLING" shall be indicated, as appropriate."

#### 5.4.1.5 Information required in addition to the dangerous goods description

5.4.1.5.7.1 Amend sub-paragraphs .4 and .5 to read:

".4 The category of the package, overpack or freight container, as assigned per paragraph 5.1.5.3.4, i.e. I-WHITE, II-YELLOW, III-YELLOW;

.5 The TI as determined per paragraphs 5.1.5.3.1 and 5.1.5.3.2 (except for category I-WHITE);"

In sub-paragraph .10, replace "SCO-I and SCO-II" with "SCO-I, SCO-II and SCO-III".

5.4.1.5.18 Add the following new paragraph:

"5.4.1.5.18 *Actual holding time*

In the case of portable tanks carrying refrigerated liquefied gases the consignor shall enter in the transport document the date at which the actual holding time ends, in the following format:

"END OF HOLDING TIME:..... (DD/MM/YYYY)"

### 5.4.2 Container/vehicle packing certificate

5.4.2.2 Delete at the end of the first sentence: "one to the other".

### 5.4.3 Documentation required aboard the ship

5.4.3.4.1 In sub-paragraph .1, replace "declaration" with "transport document".

## Chapter 5.5 Special provisions

### 5.5.2 Special provisions applicable to fumigated cargo transport units (UN 3359)

#### 5.5.2.5 Additional provisions

5.5.2.5.1 Delete paragraph 5.5.2.5.1 and renumber the existing paragraphs 5.5.2.5.2 to 5.5.2.5.4 accordingly.

5.5.2.5.3 Amend the renumbered paragraph 5.5.2.5.2 to read as follows:

"5.5.2.5.2 Cargo transport units shall be fumigated in accordance with the requirements determined by the competent authority, to ensure a sufficient period has elapsed to attain a reasonable uniform gas concentration throughout the cargo in it. Twenty-four hours is normally sufficient for this purpose."

### 5.5.3 Special provisions applicable to packages and cargo transport units containing substances presenting a risk of asphyxiation when used for cooling or conditioning purposes (such as dry ice (UN 1845) or nitrogen, refrigerated liquid (UN 1977) or argon, refrigerated liquid (UN 1951))

5.5.3 In the title, at the end, in the text in parentheses, after "(UN 1951)", add "or nitrogen".

Add the following new note after the existing note:

**Note 2:** In the context of this section the term "conditioning" may be used in a broader scope and includes protection" and label the existing note as **Note 1**".

#### 5.5.3.6 Marking of cargo transport units

5.5.3.6.2 In the figure for "Coolant/conditioning warning mark for cargo transport units", amend the title to read "Asphyxiation warning mark for cargo transport units". Delete the reference to note \*\* and the corresponding note. In note \*, at the beginning, replace "of the coolant/conditioner" with "or the name of the asphyxiant gas used as the coolant/conditioner". At the end of note \* add "Additional information such as "AS COOLANT" or "AS CONDITIONER" may be added". At the end of 5.5.3.6.2, delete the Note.

5.5.4 Add a new section 5.5.4 with the corresponding footnote as follows:

#### **5.5.4 Dangerous goods in equipment in use or intended for use during transport.**

5.5.4.1 Dangerous goods (e.g. lithium batteries, fuel cell cartridges) contained in equipment such as data loggers and cargo tracking devices, attached to or placed in packages, overpacks, containers or load compartments are not subject to any provisions of this Code other than the following:

- .1 the equipment shall be in use or intended for use during transport;

- 
- .2 the contained dangerous goods (e.g. lithium batteries, fuel cell cartridges) shall meet the applicable construction and test requirements specified in this Code;
  - .3 the equipment shall be capable of withstanding the shocks and loadings normally encountered during transport; and
  - .4 equipment powered by batteries shall be of a certified safe type.\*

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\* Refer to the Recommendations published by the International Electrotechnical Commission, in particular, to publication IEC 60079.

5.5.4.2 When such equipment containing dangerous goods is transported as a consignment, the relevant entry of the Dangerous Goods List in Chapter 3.2 shall be used and all applicable provisions of this Code shall apply".

## PART 6 CONSTRUCTION AND TESTING OF PACKAGINGS, INTERMEDIATE BULK CONTAINERS (IBCs), LARGE PACKAGINGS, PORTABLE TANKS, MULTIPLE-ELEMENT GAS CONTAINERS (MEGCs) AND ROAD TANK VEHICLES

### Chapter 6.1 Provisions for the construction and testing of packagings (other than for class 6.2 substances)

#### 6.1.1 Applicability and general provisions

##### 6.1.1.1 Applicability

6.1.1.1 In sub-paragraph .5, at the end, add "except for UN 3549".

6.1.3.1 Amend the third sentence to read as follows:

"Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 litres capacity or less or of 30 kg maximum net mass, when they shall be at least 6 mm in height and except for packagings of 5 litres capacity or less or of 5 kg maximum net mass when they shall be of an appropriate size."

#### 6.1.3 Marking

6.1.3.1 Sub-paragraph (e), in the text of the note explaining the asterisk, after the clock, replace the second sentence with the following:

"In such a case and when the clock is placed adjacent to the UN design type mark, the indication of the year in the mark may be waived. However, when the clock is not placed adjacent to the UN design type mark, the two digits of the year in the mark and in the clock shall be identical."

6.1.3.13 Add the following new paragraph:

"6.1.3.13 Where a packaging conforms to one or more than one tested packaging design type, including one or more than one tested IBC or large packaging design type, the packaging may bear more than one mark to indicate the relevant performance test requirements that have been met. Where more than

one mark appears on a packaging, the marks must appear in close proximity to one another and each mark must appear in its entirety.",

and renumber the existing 6.1.4.2.6 and 6.1.4.2.7 as 6.1.4.2.7 and 6.1.4.2.8.

#### **6.1.4 Provisions for packagings**

6.1.4.2.6 Add the following new paragraph:

"6.1.4.2.6 If materials used for body, heads, closures and fittings are not in themselves compatible with the contents to be transported, suitable internal protective coatings or treatments shall be applied. These coatings or treatments shall retain their protective properties under normal conditions of transport."

#### **6.1.4.3 Drums of metal other than aluminium or steel**

6.1.4.3.6 Add the following new paragraph:

"6.1.4.3.6 If materials used for body, heads, closures and fittings are not in themselves compatible with the contents to be transported, suitable internal protective coatings or treatments shall be applied. These coatings or treatments shall retain their protective properties under normal conditions of transport.",

and renumber the existing 6.1.4.3.6 and 6.1.4.3.7 as 6.1.4.3.7 and 6.1.4.3.8.

### **Chapter 6.2**

#### **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**

#### **6.2.2 Provisions for UN pressure receptacles**

##### **6.2.2.1 Design, construction and initial inspection and test**

6.2.2.1.1 In the table, in the rows for "ISO 11119-3:2002" and "ISO 11119-3:2013" add the following new note in the second column:

"**Note:** This standard shall not be used for linerless cylinders manufactured from two parts joined together."

6.2.2.1.1 In the table, after "ISO 11119-3:2013", add the following new row:

ISO 11119-4: 2016	Gas cylinders – Refillable composite gas cylinders – Design, construction and testing – Part 4: Fully wrapped fibre reinforced composite gas cylinders up to 150 l with load-sharing welded metallic liners	Until further notice
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6.2.2.1.2 In the table, in the row containing "ISO 11119-3:2013", add the following new Note in the central column:

"**Note:** This standard shall not be used for linerless tubes manufactured from two parts joined together".

6.2.2.1.3 In the table, under "For the cylinder shell" add the following two new rows at the end:



ISO 4706:2008	Gas cylinders – Refillable welded steel cylinders – Test pressure 60 bar and below	Until further notice
ISO 7866:2012 + Cor 1:2014	Gas cylinders – Refillable seamless aluminum alloy gas cylinders – Design, construction and testing <b>NOTE:</b> Aluminum alloy 6351A or equivalent shall not be used	Until further notice

6.2.2.1.3 Amend the headline of the second table to read as follows:

"For the acetylene cylinder including the porous material".

### 6.2.2.2 Materials

6.2.2.2 Replace "ISO 11114-1:2012" with "ISO 11114-1:2012 + Amd 1:2017".

### 6.2.2.3 Service equipment

6.2.2.3 In the first table, insert the following new row:

ISO 17879:2017	Gas cylinders – Self-closing cylinder valves – Specification and type testing <b>NOTE:</b> This standard shall not be applied to self-closing valves in acetylene cylinders.	Until further notice
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6.2.2.3 In the first table, for ISO 10297:2014, in the column "Applicable for manufacture", replace "Until further notice" with "Until 31 December 2022". After the row for ISO 10297:2014 insert the following new row.

ISO 10297:2014 + Amd 1:2017	Gas cylinders – Cylinder valves – Specification and type testing;	Until further notice
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6.2.2.3 In the row for ISO 14246:2014 replace "Until further notice" with "Until 31 December 2024". Insert the following new row after ISO 14246:2014:

ISO 14246:2014 + Amd 1:2017	Gas cylinders – Cylinder valves – Manufacturing tests and examinations	Until further notice
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### 6.2.2.4 Periodic inspection and test

6.2.2.4 Delete the row for ISO 10462:2005.

6.2.2.4 Add a new row at the end of the first table immediately after the row for ISO 22434:2006 as follows.

ISO 20475:2018	Gas cylinders – Cylinder bundles – Periodic inspection and testing	Until further notice
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### 6.2.2.7 Marking of refillable UN pressure receptacles

6.2.2.7.2 In sub-paragraph (c), add the following note:

**Note:** For the purpose of this mark the country of approval means the country of the competent authority that authorized the initial inspection and test of the individual receptacle at the time of manufacture."

### **6.2.2.9 Marking of UN metal hydride storage systems**

6.2.2.9.2 In sub-paragraph (c), add the following new note:

**Note:** For the purpose of this mark the country of approval means the country of the competent authority that authorized the initial inspection and test of the individual system at the time of manufacture."

## **Chapter 6.3 Provisions for the construction and testing of packagings for class 6.2 infectious substances of category A**

In the title of Chapter 6.3, at the end, add "(UN 2814 and UN 2900)"

### **6.3.1 General**

6.3.1.1 At the end, add ", UN 2814 and UN 2900".

### **6.3.4 Marking**

6.3.4.1 Amend the third sentence to read as follows:

"Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 litres capacity or less or of 30 kg maximum net mass, when they shall be at least 6 mm in height and except for packagings of 5 litres capacity or less or of 5 kg maximum net mass when they shall be of an appropriate size."

### **6.3.5 Test provisions for packagings**

#### **6.3.5.2 Preparation of packagings for testing**

6.3.5.2.2 In "Explanation for use of the table", at the end of the first paragraph, delete "five times after conditioning".

#### **6.3.5.3 Drop test**

6.3.5.3.1 Add the following new title to this paragraph: "Drop height and target".

6.3.5.3.2 Add the following new title to this paragraph: "Number of test samples and drop orientation". Renumber the text under this paragraph as "6.3.5.3.2.1".

6.3.5.3.3 Renumber as 6.3.5.3.2.2.

Renumber paragraphs 6.3.5.3.4, 6.3.5.3.5, 6.3.5.3.6, 6.3.5.3.6.1, 6.3.5.3.6.2 and 6.3.5.3.6.3 as 6.3.5.3.3, 6.3.5.3.4, 6.3.5.3.5, 6.3.5.3.5.1, 6.3.5.3.5.2 and 6.3.5.3.5.3, respectively. Adapt the cross references accordingly as follows:

In 6.3.5.2.2, in the table, under "Explanation for the use of the table", replace "6.3.5.3.6.1", "6.3.5.3.6.2" and "6.3.5.3.6.3" with "6.3.5.3.5.1", "6.3.5.3.5.2" and "6.3.5.3.5.3", respectively.

In 6.3.5.3.6.3, renumber 6.3.5.3.5.3, replace "6.3.5.3.6.1" and "6.3.5.3.6.2" with "6.3.5.3.5.1" and "6.3.5.3.5.2", respectively. At the end, replace "in 6.3.5.3.2" with "in 6.3.5.3.2.1 or in 6.3.5.3.2.2, as appropriate;".

## **Chapter 6.4**

### **Provisions for the construction, testing and approval of packages and radioactive material**

#### **6.4.2 General provisions**

6.4.2.4 Delete "and finished".

6.4.2.8 Insert the following new paragraph to read as follows:

"6.4.2.8 The design of the package shall take into account ageing mechanisms" and renumber the remaining paragraphs accordingly.

#### **6.4.4 Provisions for excepted packages**

6.4.4 Replace the existing paragraph with the following:

"An excepted package shall be designed to meet the requirements specified in 6.4.2.1-6.4.2.12 and, in addition, the requirements of 6.4.7.2 if it contains fissile material allowed by one of the provisions of sub-paragraphs .1 to .6 of 2.7.2.3.5, and the requirements of 6.4.3 if transported by air."

#### **6.4.5 Provisions for industrial packages**

6.4.5.4.3 Delete "liquids and gases" in first sentence.

#### **6.4.6 Provisions for packages containing uranium hexafluoride**

6.4.6.2 Replace "it would meet" with "the package would meet" in the introductory sentence.

#### **6.4.7 Provisions for Type A packages**

6.4.7.9 Replace "it shall be capable" with "the containment system shall be capable".

6.4.7.17 Amend to read as follows:

"A Type A package designed for gases shall prevent loss or dispersal of the radioactive contents if the package were subjected to the tests specified in 6.4.16, except for a Type A package designed for tritium gas or for noble gases."

#### **6.4.8 Provisions for Type B(U) packages**

6.4.8.2 In sub-paragraph (b), replace "Lessen the efficiency" with "Lessening of the efficiency".

6.4.8.8 In the first indent after the sub-paragraphs, replace "radiation level" with "dose rate". Add "none-fixed" before "contamination limits" in the last sentence.

**6.4.9 Provisions for Type B(M) packages**

6.4.9.1 Delete "Notwithstanding," at the beginning of the second sentence.

**6.4.11 Provisions for packages containing fissile material**

6.4.11.2 Replace "maximum mass" with "total mass" in sub-paragraph (c) (iv),

and in sub-paragraph (d) replace "their total concentration" with "the total concentration of these materials".

6.4.11.8 In sub-paragraph (b) (i), after "between the valve" add "or the plug" and, at the end, after "the valves" add "and the plug".

6.4.11.11 Amend sub-paragraph (b) as follows:

"(b) In the assessment of 6.4.11.10, use of special features as specified in 6.4.11.8 is allowed provided that leakage of water into or out of the void spaces is prevented when the package is submitted to the Type C package tests specified in 6.4.20.1 followed by the water leakage test specified in 6.4.19.3."

**6.4.12 Test procedures and demonstration of compliance**

6.4.12.1 Delete "LSA-III material, or" at the beginning of sub-paragraph (a).

**6.4.13 Testing the integrity of the containment system and shielding and evaluating criticality safety**

Amend the introductory sentence to read as follows:

"After each test or group of tests or sequence of the applicable tests, as appropriate, specified in 6.4.15 to 6.4.21:"

**6.4.15 Test for demonstrating ability to withstand normal conditions of transport**

6.4.15.4 In sub-paragraph (a), at the beginning, replace "of drop" with "of the drop," and add a comma after "of the target".

6.4.15.6 In sub-paragraph (b), replace "of drop" with "of the drop" and add commas before "measured" and after "of the specimen".

**6.4.17 Tests for demonstrating ability to withstand accident conditions of transport**

6.4.17.2 In sub-paragraph (b), in the third sentence, replace "section" with "cross-section".

6.4.17.3 In sub-paragraph (b), replace "are everywhere decreasing" with "are decreasing in all parts of the specimen".

**6.4.23 Applications for approval and approvals for radioactive material transport**

6.4.23.2 After the existing 6.4.23.2 add new paragraph with the following:

"6.4.23.2.1 An application for approval of SCO-III shipments shall include:

(a) A statement of the respects in which, and of the reasons why, the consignment is considered SCO-III;

- (b) Justification for choosing SCO-III by demonstrating that:
- (i) No suitable packaging currently exists;
  - (ii) Designing and/or constructing a packaging or segmenting the object is not practically, technically or economically feasible;
  - (iii) No other viable alternative exists;
- (c) A detailed description of the proposed radioactive contents with reference to their physical and chemical states and the nature of the radiation emitted;
- (d) A detailed statement of the design of the SCO-III, including complete engineering drawings and schedules of materials and methods of manufacture;
- (e) All information necessary to satisfy the competent authority that the requirements of 4.1.9.2.4.5 and the requirements of [7.1.4.5.1], if applicable, are satisfied;
- (f) A transport plan;
- (g) A specification of the applicable management system as required in 1.5.3.1".

6.4.23.4 Insert an additional sub-paragraph (f) to read as follows:

- "(f) If the package is to be used for shipment after storage, a justification of considerations to ageing mechanisms in the safety analysis and within the proposed operating and maintenance instructions;"

and re-number subsequent sub-paragraphs accordingly.

At the end of new sub-paragraph (i) (current (h)), delete "and". At the end of new sub-paragraph (j) (current (i)), replace "." with "; and"; and add additional sub-paragraph (k) to read as follows:

- "(k) For packages which are to be used for shipment after storage, a gap analysis programme describing a systematic procedure for a periodic evaluation of changes of Regulations, changes in technical knowledge and changes of the state of the package design during storage".

6.4.23.8 In sub-paragraph (c), replace "calculative methods" with "calculations".

6.4.23.10 In sub-paragraph (h), replace "International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources, Safety Series No.115, IAEA, Vienna (1996)" with "Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, IAEA Safety Standards Series No. GSR Part 3, IAEA, Vienna (2014)".

6.4.23.11 Delete sub-paragraph (d).

6.4.23.12 In (a), replace "6.4.23.11 (a), (b), (c) and (d)" with "6.4.23.11 (a), (b) and (c)" and delete "including, if applicable, the symbol "-96"". At the end of the first sentence of (a), replace "identification marks" with "identification mark".

6.4.23.15 Replace "contents" with "package" in sub-paragraph (k) (iii).

6.4.23.17 Replace "contents" with "package" in sub-paragraph (n) (iv) and insert a new sub-paragraph (p) after 6.4.23.17 (o) and renumber subsequent sub-paragraphs accordingly:

- "(p) For package designs subject to para. 6.4.24.2, a statement specifying those requirements of the current regulations with which the package does not conform;".

#### **6.4.24 Transitional measures for class 7**

Amend the title over 6.4.24.1 to read "Packages not requiring competent authority approval of design under the 1985, 1985 (As Amended 1990), 1996 Edition, 1996 Edition (Revised), 1996 (As Amended 2003), 2005, 2009 Editions of IAEA Safety Series No.6 and 2012 Edition of IAEA Safety Standards Serie No. SSR-6".

6.4.24.1 Amend to read as follows:

"Packages not requiring competent authority approval of design (excepted packages, Type IP-1, Type IP-2, Type IP-3 and Type A packages) shall meet this Edition of these Regulations in full, except that:

- (a) Packages that meet the requirements of the 1985 or 1985 (As Amended 1990) Editions of IAEA Regulations:
- (i) May continue in transport provided that they were prepared for transport prior to 31 December 2003 and are subject to the requirements of 6.4.24.4, if applicable; or
  - (ii) May continue to be used, provided that all the following conditions are met:
    - They were not designed to contain uranium hexafluoride;
    - The applicable requirements of 1.5.3.1 of this Code are applied;
    - The activity limits and classification in chapter 2.7 of this Code are applied;
    - The requirements and controls for transport in parts 1,3,4,5 and 7 of this Code are applied;
    - The packaging was not manufactured or modified after 31 December 2003;
- (b) Packages that meet the requirements of the 1996, 1996 (revised), 1996 (as amended 2003), 2005 or 2009 Editions of IAEA Safety Series No. 6, or 2012 Edition of IAEA Safety Standards Series No. SSR-6:
- (i) May continue in transport provided that they were prepared for transport prior to 31 December 2025 and are subject to the requirements of 6.4.24.4, if applicable; or

- (ii) May continue to be used, provided that all the following conditions are met:
- The applicable requirements of 1.5.3.1 of this Code are applied;
  - The activity limits and classification in chapter 2.7 of this Code are applied;
  - The requirements and controls for transport in parts 1,3,4,5 and 7 of this Code are applied; and
  - The packaging was not manufactured or modified after 31 December 2025".

6.4.24.2 Amend the title over 6.4.24.2 to read: "Package designs approved under the 1985, 1985 (As Amended 1990), 1996 Edition, 1996 Edition (Revised), 1996 (As Amended 2003), 2005, 2009 Editions of IAEA Safety Series No.6 and 2012 Edition of IAEA Safety Standards Serie No. SSR-6".

6.4.24.2 Amend to read as follows:

"Packages requiring competent authority approval of the design shall meet this Edition of these Regulations in full except that:

- (a) Packagings that were manufactured to a package design approved by the competent authority under the provisions of 1985 or 1985 (As Amended 1990) Editions of IAEA Regulations may continue to be used provided that all of the following conditions are met:
- (i) The package design is subject to multilateral approval;
  - (ii) The applicable requirements of 1.5.3.1 of this Code are applied;
  - (iii) The activity limits and classification in chapter 2.7 of this Code are applied ;
  - (iv) The requirements and controls for transport in parts 1,3,4,5 and 7 of this Code are applied;
  - (v) For a package containing fissile material and transported by air, the requirement of 6.4.11.11 is met;
- (b) Packagings that were manufactured to a package design approved by the competent authority under the provisions of the 1996, 1996 (revised), 1996 (as amended 2003), 2005 or 2009 Editions of IAEA Safety Series No. 6, or 2012 Edition of IAEA Safety Standards Series No. SSR-6 may continue to be used provided that all of the following conditions are met:
- (i) The package design is subject to multilateral approval after 31 December 2025;
  - (ii) The applicable requirements of 1.5.3.1 of this Code are applied;

- (iii) The activity limits and material restrictions of chapter 2.7 of this Code are applied;
- (iv) The requirements and controls for transport in parts 1,3,4,5 and 7 of this Code are applied".

6.4.24.4 Add the following new paragraph to read as follows:

"6.4.24.4 No new manufacture of packagings of a package design meeting the provisions of the 1996, 1996 (revised), 1996 (as amended 2003), 2005 or 2009 Editions of IAEA Safety Series No. 6, or 2012 Edition of IAEA Safety Standards Series No. SSR-6 shall be permitted to commence after 31 December 2028.",

and renumber current 6.4.24.4 and 6.4.24.5 as 6.4.24.5 and 6.4.24.6.

6.4.24.6 (previously 6.4.24.5) Amend the title to read as follows: "Special form radioactive material approved under the 1985, 1985 (As Amended 1990), 1996 Edition, 1996 Edition (Revised), 1996 (As Amended 2003), 2005, 2009 Editions of IAEA Safety Series No.6 and 2012 Edition of IAEA Safety Standards Serie No. SSR-6".

6.4.24.6 (previously 6.4.24.5) Amend to read as follows:

"6.4.24.6 Special form radioactive material manufactured to a design that had received unilateral approval by the competent authority under the 1985, 1985 (as amended 1990), 1996, 1996 (revised), 1996 (as amended 2003), 2005 and 2009 Editions of IAEA Safety Series No. 6 and 2012 Edition of IAEA Safety Standards Series No. SSR-6 may continue to be used when in compliance with the mandatory management system in accordance with the applicable requirements of 1.5.3.1.

There shall be no new manufacture of special form radioactive material to a design that had received unilateral approval by the competent authority under the 1985 or 1985 (as amended 1990) Editions of IAEA Safety Series No. 6. No new manufacture of special form radioactive material to a design that had received unilateral approval by the competent authority under the 1996, 1996 (revised), 1996 (as amended 2003), 2005 and 2009 Editions of IAEA Safety Series No. 6, and 2012 Edition of IAEA Safety Standards Series No. SSR-6 shall be permitted to commence after 31 December 2025."

## **Chapter 6.5**

### **Provisions for the construction and testing of intermediate bulk containers (IBCs)**

#### **6.5.2 Marking**

##### **6.5.2.1 Primary marking**

6.5.2.1.3 A new provision 6.5.2.1.3 is added with the following:

"6.5.2.1.3 Where an IBC conforms to one or more than one tested IBC design type, including one or more than one tested packaging or large packaging design type, the IBC may bear more than one mark to indicate the relevant performance test requirements that have been met. Where more than one mark appears on a packaging, the marks must appear in close proximity to one another and each mark shall appear in its entirety."



**6.5.2.2 Additional marking**

6.5.2.2.1 Delete the last row in the table (Maximum permitted stacking load) and the corresponding footnote b.

6.5.2.2.2 In the first sentence, delete "when the IBC is in use".

6.5.2.2.4 Amend the end of the first paragraph to read as follows:

"It shall be durable, legible and placed in a location so as to be readily accessible for inspection after assembling the inner receptacle in the outer casing. When the mark on the inner receptacle is not readily accessible for inspection due to the design of the outer casing, a duplicate of the required marks on the inner receptacle shall be placed on the outer casing preceded by the wording "Inner receptacle". This duplicate shall be durable, legible and placed in a location so as to be readily accessible for inspection."

6.5.2.2.4 In the second paragraph, amend the second sentence to read as follows:

"In such a case, the date may be waived from the remainder of the marks."

**6.5.5 Specific provisions for IBCs****6.5.5.1 Specific provisions for metal IBCs**

6.5.5.1.6 Insert a new introductory sentence as follows:

"Metal IBCs with a capacity of more than 1500 L shall comply with the following minimum wall thickness requirement:",

amend the table under .1 to read as follows:

<b>Wall thickness (T) in mm</b>			
<b>Types 11A, 11B, 11N</b>		<b>Types 21A, 21B, 21N, 31A, 31B, 31N</b>	
<b>Unprotected</b>	<b>Protected</b>	<b>Unprotected</b>	<b>Protected</b>
$T = C/2000 + 1.5$	$T = C/2000 + 1.0$	$T = C/1000 + 1.0$	$T = C/2000 + 1.5$

**Chapter 6.6**  
**Provisions for the construction and testing**  
**of large packagings**

**6.6.3 Marking**

6.6.3.3 In the first sentence, delete "when the large packaging is in use".

6.6.3.4 A new provision 6.6.3.4 is added with the following:

"6.6.3.4 Where a large packaging conforms to one or more than one tested large packaging design type, including one or more than one tested packaging or IBC design type, the large packaging may bear more than one mark to indicate the relevant performance test requirements that have been met. Where more than one mark appears on a packaging, the marks must appear in close proximity to one another and each mark must appear in its entirety."

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**Chapter 6.7****Provisions for the design, construction, inspection and testing of portable tanks and multiple-element gas containers (MEGCs)****6.7.2 Provisions for the design, construction, inspection and testing of portable tanks intended for the transport of substances of class 1 and classes 3 to 9****6.7.2.2 General design and construction provisions**

6.7.2.2.16 Add "of the Dangerous Goods List" after "Column 14" and delete it after "described in 4.2.5.3".

**6.7.2.12 Capacity of pressure relief devices**

6.7.2.12.2.1 Amend the definition of factor "U" to read:

"U = heat transfer coefficient of the insulation, in  $\text{kW}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ , at 38 °C".

6.7.2.19.6 Add the following new paragraph:

"6.7.2.19.6 Except as provided for in this paragraph, portable tanks which have missed the timeframe for their scheduled 5-year or 2.5-year periodic inspection and test may only be filled and offered for transport if a new 5-year periodic inspection and test is performed according to 6.7.2.19.4."

**6.7.3 Provisions for the design, construction, inspection and testing of portable tanks intended for the transport of non-refrigerated liquefied gases of class 2****6.7.3.4 Minimum shell thickness**

6.7.3.4.1 After .2, add the following new paragraph:

"In addition, any relevant portable tank special provision indicated in column 14 of the Dangerous Goods List and described in 4.2.5.3 shall be taken into account."

**6.7.3.8 Capacity of relief devices**

6.7.3.8.1.1 Amend the definition of factor "U" to read:

"U = heat transfer coefficient of the insulation, in  $\text{kW}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ , at 38 °C".

**6.7.3.15 Inspection and testing**

6.7.3.15.6 Add the following new paragraph:

"Except as provided for in this paragraph, portable tanks which have missed the timeframe for their scheduled 5-year or 2.5-year periodic inspection and test may only be filled and offered for transport if a new 5-year periodic inspection and test is performed according to 6.7.3.15.4."

**6.7.4 Provisions for the design, construction, inspection and testing of portable tanks intended for the transport of refrigerated liquefied gases of class 2****6.7.4.14 Inspection and testing**

6.7.4.14.6 Add the following new provision:

"Except as provided for in this paragraph, portable tanks which have missed the timeframe for their scheduled 5-year or 2.5-year periodic inspection and test may only be filled and offered for transport if a new 5-year periodic inspection and test is performed according to 6.7.4.14.4."

#### **6.7.5 Provisions for the design, construction, inspection and testing of multiple-element gas containers (MEGCs) intended for the transport of non-refrigerated gases**

##### **6.7.5.2 General design and construction provisions**

6.7.5.2.3 In the first sentence, after "seamless steel" insert "or composite construction".

6.7.5.2.4 In sub-paragraph .1, replace "ISO 11114-1:2012" with "ISO 11114-1:2012 + Amd 1:2017".

## **PART 7 PROVISIONS CONCERNING TRANSPORT OPERATIONS**

### **Chapter 7.1 General stowage provisions**

#### **7.1.4 Special stowage provisions**

##### **7.1.4.2 Stowage of marine pollutants**

Replace the title "7.1.4.2 Stowage of marine pollutants" with "7.1.4.2 Stowage of marine pollutants and infectious substances of UN 2814, UN 2900 and UN 3549".

##### **7.1.4.4 Stowage of goods of class 1**

7.1.4.4.2 Replace the paragraph with the following:

"[7.1.4.4.2 Goods of class 1 with the exception of division 1.4 shall be stowed not less than a horizontal distance of 12 m from living quarters, life-saving appliances and areas where the ship's passengers can access without any authorization or limitation.]"

##### **7.1.4.5 Stowage of goods of class 7**

7.1.4.5.1 Add the following new sentence after the first sentence:

"For SCO-III, the limits in the table hereunder may be exceeded provided that the transport plan contains precautions which are to be employed during transport to obtain an overall level of safety at least equivalent to that which would be provided if the limits had been applied."

7.1.4.5.3.3 Amend sub-paragraph .3 to read as follows:

".3 The dose rate under routine conditions of transport shall not exceed 2 mSv/h at any point on the external surface of the vehicle or freight container, and 0.1 mSv/h at 2 m from the external surface of the vehicle or freight container, except for consignments transported under exclusive use by road or rail for which the radiation limits around the vehicle are set forth in 7.1.4.5.5.2 and 7.1.4.5.5.3."

7.1.4.5.11 At the beginning, delete ", tank, IBC".

### **7.1.5 Stowage codes**

In the table for stowage codes, for SW22, replace "For WASTE AEROSOLS:" with "For WASTE AEROSOLS or WASTE GAS CARTRIDGES" in the third line.

### **7.1.6 Handling codes**

[In the table, insert the following new handling code:

"HX- Avoid handling the packaging or large packaging or keep handling to a minimum. Inform the appropriate public health authority or veterinary authority where persons may have been exposed to infection."]

## **Chapter 7.2 General segregation provisions**

### **7.2.8 Segregation codes**

In the table, for SG27, SG28 and SG34, replace "away from" with "separated from".

## **Chapter 7.8 Special requirements in the event of an incident and fire precautions involving dangerous goods**

### **7.8.4 Special provisions for incidents involving radioactive material**

7.8.4.3 Replace the existing paragraph with the following:

"7.8.4.3 In the event of a nuclear or radiological emergency during the transport of radioactive material, provisions as established by relevant national and/or international organizations, should be observed to protect persons, property and the environment. This includes arrangements for preparedness and response established in accordance with the national and/or international requirements and in a consistent and coordinated manner with the national and/or international emergency arrangements."

7.8.4.5 Replace the existing paragraph with the following:

"7.8.4.5 The arrangements for preparedness and response should be based on the graded approach and take into consideration the identified hazards and their potential consequences, including the formation of other dangerous substances that may result from the reaction between the contents of a consignment and the environment in the event of a nuclear or radiological emergency. Guidance for the establishment of such arrangements is contained in "Preparedness and Response for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSR Part 7, IAEA, Vienna (2015); "Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSG-2, IAEA, Vienna (2011); "Arrangements for Preparedness for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GS-G-2.1, IAEA, Vienna (2007), and "Arrangements for the

Termination of a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSG-11, IAEA, Vienna (2018)."

### Appendix A List of generic and N.O.S. proper shipping names

In the table, for class 6.2, under "Specific entries", add the following new entries:

"

Class or division	Subsidiary hazard	UN Number	Proper shipping name
<b>Class 6</b>			
6.2		3549	MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid
6.2		3549	MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid

"

### Appendix B Glossary of terms

In the definition of "Detonators", replace "DETONATORS for blasting, both ELECTRIC and NON-ELECTRIC" with "DETONATORS for blasting, ELECTRIC, NON-ELECTRIC, and ELECTRONIC programmable"

Add the following new definition for "DETONATORS, ELECTRONIC programmable for blasting":

"DETONATORS, ELECTRONIC programmable for blasting

Detonators with enhanced safety and security features, utilizing electronic components to transmit a firing signal with validated commands and secure communications. Detonators of this type cannot be initiated by other means".

### INDEX

Add the following new entries in alphabetical order:

"

Substance, material or article	MP	Class	UN. No.
DANGEROUS GOODS IN ARTICLES		9	3363
DETONATORS, ELECTRONIC programmable for blasting		1.1B	0511
DETONATORS, ELECTRONIC programmable for blasting		1.4B	0512
DETONATORS, ELECTRONIC programmable for blasting		1.4S	0513
MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid		6.2	3549
MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid		6.2	3549

"

In column "Substance, material or article" for the entry "2-DIMETHYLAMINOETHYL-METHACRYLATE" add at the end ", STABILIZED".

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**ANNEX 4**

**DRAFT AMENDMENTS TO THE REVISED EMERGENCY RESPONSE PROCEDURES  
FOR SHIPS CARRYING DANGEROUS GOODS (EmS GUIDE) (MSC.1/Circ.1588)**

Insert the following new entries:

"

<b>UN No.</b>	<b>EmS Fire</b>	<b>EmS Spill</b>
0511	F-B	S-X
0512	F-B	S-X
0513	F-B	S-X
3549	F-A	S-T

"

\*\*\*

**ANNEX 5****DRAFT AMENDMENTS TO THE IMO/WHO/ILO MEDICAL FIRST AID GUIDE FOR USE IN ACCIDENTS INVOLVING DANGEROUS GOODS (MFAG)****Tables****Table 2  
CPR (CARDIO-PULMONARY RESUSCITATION)****Treatment**

Add the following sentence as the new fifth bullet point, under the bullet point on "Once a clear and open airway is established, insert Guedel airway: see appendix 3." and under the corresponding picture:

- "• If the casualty is very breathless, give 50 mg furosemide (frusemide) by intramuscular injection to increase the urine output."

**Table 19  
METHANOL (METHYL ALCOHOL) AND ETHYLENE GLYCOL****INGESTION**

Amend the second, third and fourth bullet points under the heading "Treatment" to read as follows:

- "• Give 70 mL of ethyl alcohol 99.5 % in 350 to 500 mL water or soft drink.
- This is a **MEDICAL EMERGENCY**. The casualty should be transferred to a shore hospital as soon as possible.
- Continue to give 10 mL of ethyl alcohol 99.5 % in 50 mL or more water or soft drink every hour until the casualty can be evacuated."

**FOLLOW-UP**

Amend the first bullet point to read as follows:

- "• If the casualty cannot be evacuated, and if medically advised, continue treatment with alcohol (ethyl alcohol) up to maximum 15 hours."

## Appendices

### Appendix 2 CPR (CARDIO-PULMONARY RESUSCITATION)

#### Breathing and heart have stopped

Amend the first sentence under the heading "Terminating heart compression" to read as follows:

"With deep unconsciousness, the absence of spontaneous respiration and fixed, dilated pupils having persisted for 30 minutes, further efforts to restore circulation and breathing are usually futile and might be stopped, unless a case of hypothermia or intoxication is suspected."

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