

This document summarises the amendments being introduced in the Amendment 40-20 edition of the IMDG Code which may be used on an optional basis from 1 January 2021 until it becomes mandatory on June 1 2022.

Note, during this extended transitional period Amendment 39-18 can continue to be used.

These notes are intended to provide an overview of the changes being introduced and should not be regarded as a complete listing of amendments. Reference must be made to the text of Amendment 40-20 for full details of all the amendments and applicable requirements.

Brief summary

- Less headline changes than normal Amendments resulting from the restrictions imposed on IMO meetings due to the coronavirus pandemic, impacting the normal work agenda, however there are still several hundred changes to consider
- Harmonised with the update to Model regulations, 21st edition
- Several changes to the definitions in chapter 1.2, This includes, a new definition for 'dose rate' which replaces radiation level, the definition of which is now deleted; existing definitions for 'GHS', 'Liquids', 'Manual of Tests and Criteria', 'Self-accelerating decomposition temperature (SADT)', 'Transport index', 'Self-accelerating polymerization temperature (SAPT)' have been amended
- The indicative list of high consequence dangerous goods in 1.4.3.1.2. has been updated to reflect the addition of the new A40 UN Numbers
- In Part 2, there are various amendments in the class chapters, in particular for class 6.2 in 2.6.3 and class 7 in 2.7.2. For class 7 radioactive materials the new SCO-III classification criteria is included. Other editorial updates are provided for classes 1, 5.2, 8 and 9 in 2.1.3.5.2, 2.5.3.2.4, 2.8.3.2 and 2.9.2.2 respectively.
- In 3.1.2.9, the requirement if a N.O.S. or generic entry is a marine pollutant, the technical name of the pollutant must be given now applies only to N.O.S. entries; other generics will not need it. The examples provided to illustrate these have been amended.
- There have been several amendments to current entries in the segregation groups affecting groups 7, 8, 11, 15, 17 and 18. There are four alcoholate entries assigned to the Alkalis – SGG18 group: UN 1289, 1431, 3206 and 3274
- There are four new UN Numbers added to the DGL, 0511, 0512 and 0513 DETONATORS, ELECTRONIC programmable for blasting and 3549 MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid.
- There is the usual raft of changes to entries in the DGL. These include the following general changes:
 - All explosive articles with packing instruction P130 now have LP101 as well
 - SP392 has been added to column 6 for several compressed gas entries, e.g. UN 1066
 - TP 35/37/38/39 – these were dependant on dates that have now expired so have been removed from column 15 for several entries
 - SP76 saying transport is prohibited except with competent authority approval is deleted. Some of the UN Numbers previously allocated to it have been given stowage categories, SW and H codes and can be sent without special approval. Others have been given SP976 which says something similar to the former SP76

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- There are amendments to several Special Provisions and SP951 has been deleted and there are seven new provisions.
 - SP274 now says that the technical name cannot be the PSN of any UN Number, except that for 3077 and 3082 only, it may be one that does not include N.O.S. and does not itself have SP274, A valid example is UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (paint)
 - There have been several updates to existing packing instructions and the following new packing instructions added: P622, LP622.
 - P801 applying to batteries of UN 2794, 2795 and 3028 has been completely replaced.
 - The dimensions of the lithium battery mark have been slight reduced and can now be square in shape
 - The requirement to include flashpoint on the dangerous goods transport document is revised to specifically reference both primary and subsidiary hazards
 - There is a new requirement to note on the transport document when lithium cells or batteries are offered for transport under special provision 376 or special provision 377, with the wording "DAMAGED/DEFECTIVE", "LITHIUM BATTERIES FOR DISPOSAL" or "LITHIUM BATTERIES FOR RECYCLING
 - There is a new 5.5.4 added for "Dangerous goods contained in equipment in use or intended for use during carriage, attached to or placed in packages, overpacks, containers or load compartments". Here it confirms that 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 the IMDG Code provided a range of conditions being met.
 - T75 tanks for refrigerated liquefied gases need to be marked END OF HOLDING TIME dd/mm/yyyy (DD/MM/YYYY) so it is actually a date rather than a time.
 - Part 6 has several minor changes to some of the Chapters
 - The stowage provisions included in 7.1.4.2 applicable to marine pollutants have now also been applied to infectious substances of UN 2814, 2900 and 3549
 - SW22 now applies to waste gas cartridges as well as waste aerosols so there is a change of stowage category for WASTE. The change of stowage category for maximum 1 L or above 1 L still applies only to aerosols.
 - There is a new 'H5' handling code applicable to class 6.2 infectious substances
 - SG27, SG28 and SG34 applying to some explosives now say 'separated from' instead of 'away from'
 - SG53 is revised and changes from 'separated from' liquid organic substances to 'Shall not be stowed together with combustible material in the same cargo transport unit', so it also covers solids and inorganics, and it no longer requires segregation between CTUs.
 - The Emergency Response Schedules have been updated to the latest Amdt40 changes. This includes updating the spillage schedule 'S-S' for radioactive material. The Index to these schedules is updated to reflect recent changes, primarily concerning corrections to replace spillage provisions with underlined equivalents to take into account the special cases that apply to marine pollutants, and adding several entries to take into account distinctions in provision of emergency schedules as per packing groups.

Detailed summary of changes

Part 1

Preamble – there is an update to some of the existing references in paragraphs 13 and 14

1.1.1.10 – new at this Amendment, it signposts to the new section 5.5.4 for dangerous goods in equipment in use or intended for use during transport

1.2.1 – the following new definition is added, and this will replace the current definition of radiation level which is now deleted:

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

The existing definitions for ‘GHS’, ‘Liquids’, ‘Manual of Tests and Criteria’, ‘Self-accelerating decomposition temperature (SADT)’, ‘Transport index’, ‘Self-accelerating polymerization temperature (SAPT)’ have been amended

1.3.1.7 – a couple of the related Codes and publications referenced are updated

1.4.3.1.2 – the new class 1.4 UN Numbers, UN 0512 and UN 0513, are added to table 1.4.1; Class 1.6 explosives are now included in the indicative list of high consequence dangerous goods; the entry for 6.2 in the table is updated to include the new addition of UN 3549.

1.5 – there are numerous changes in this chapter to reflect the updates to *IAEA Regulations for the Safe Transport of Radioactive Material*, 2018 Edition, *IAEA Safety Standards Series No. SSR-6, (Rev.1)*. This includes the change from ‘to persons’ to now read ‘to people’ and ‘radiation level’ to now read ‘dose rate’. There are also specific changes in 1.5.1.2, 1.5.2.4, 1.5.4.2 and 1.5.6.1.

Part 2: Classification

There are several updates and amendments to this Part, these include:

2.0.6.4 – there is a new last sentence which clarifies that the criteria for articles containing dangerous goods (which do not normally apply to class 1 explosives) does apply to articles containing explosives which are excluded from class 1 in accordance with 2.1.3.4.2

Class 1:

2.1.3.5.2 – articles under UN 0431 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 are added to the assignment of fireworks that may be made on the basis of analogy, without the need for Test Series 6 testing, in accordance with the default fireworks classification table in 2.1.3.5.5.

Class 5.2:

2.5.3.2.4 – in the table containing the list of currently assigned organic peroxides in packagings entries for UN 3109 and 3116 are amended and DI-(4-*tert*-BUTYLCYCLOHEXYL) PEROXYDICARBONATE changes from UN 3116 to 3118

Class 6.2:

2.6.3.1.6 – the definition of medical or clinical wastes has been updated:

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

2.6.3.5 – has been amended to reflect the new addition of UN 3549 for solid medical waste, category A. It makes it clear that the UN 3549 entry must not be used for waste from bio-research or liquid waste

Class 7: chapter 2.7 has been amended in numerous places including:

2.7.2.2.1 – there are new radionuclides and basic values added to the table

2.7.2.3.2.3 – there is new classification and criteria for SCO-III which is defined as ‘*A large solid object which, because of its size, cannot be transported in a type of package described in the IMDG Code regulations*’.

2.7.2.4 – there is reference to the fissile material provisions in 2.7.2.3.5 added in 2.7.2.1.3/.4/.7

Class 8:

2.8.3.2 – the relevant OECD test guidelines have been amended, and a new final sentence added regarding assignment of packing group.

Class 9:

2.9.2.2 – under Lithium batteries, the entry for UN 3536 has lithium ion batteries or lithium metal batteries inserted at the end; under "Other substances or articles presenting a danger during transport...", the alternate PSN for UN 3363, DANGEROUS GOODS IN ARTICLES, is added; the previous footnotes regarding applicability of the Code to the referenced substance and articles have also been removed.

Part 3: Dangerous Goods List, Special Provisions and Exemptions

3.1.2.9 – there is a change to the requirement to provide a technical name if a N.O.S. (Not Otherwise Specified requiring a technical name) or generic entry is a marine pollutant. It now applies only to the N.O.S entries (not otherwise requiring a technical name, e.g. UN 1477); other generic entries that previously may have required it if deemed to be a marine pollutant (e.g. UN 1263) will no longer need it. The examples provided to illustrate these have been amended.

3.1.4.4 – there have been several amendments to current entries in the segregation groups affecting groups 7, 8, 11, 15, 17 and 18. There are four alcoholate entries assigned to the “Alkalis – SGG18” group: UN Nos. 1289, 1431, 3206 and 3274

3.2, DGL - There is the usual raft of changes to entries in the DGL including:

General changes:

Several class 1 entries now have packing instructions P130 and LP101 added to column 8, e.g. UN 0338, 0426

SP392 has been added to column 6 for several compressed gas entries, e.g. UN 1066

SP76 has been deleted from column 6. This prohibited transport except with CAA. Some of the UN Numbers with it have been given stowage categories and can be sent without CAA. Others have been given the new SP976 which has a similar requirement.

TP 35/37/38/39 – these were dependant on dates that have now expired so have been removed from column 15 for several entries

Following from similar changes in the A39 corrigenda there are changes to reposition SGG codes above SG codes to provide consistent ordering

Specific changes

UN 0340-0343 – now have the new SP393 added to column 6

UN 1361/ 1362 – the properties and observations in column 17 have been updated

UN 1372, 1387, 1856, 1857 – deleted SP117; SP123 added to column 6

UN 1402 (PGI and II) – SP951 deleted in column 6

UN 1289,1431, 3206, 3274, 3484 – SGG18 and SG35 added to column 16b

UN 2037 – in column 6, SP327 and SP959 have been added; in column 8, LP200 has been added; in column 9, PP96 and L2 are inserted; in column 16a, SW22 is added

- UN 2383 – SP386 is deleted from column 6
- UN 2522 – the PSN in column 2 now has ‘Stabilized’ added; SP386 is added to column 6
- UN 2545 (PGI, II, III) – SGG15 is added in column 16b
- UN 2555/ 6/ 7, UN 3380 – SP394 is added in column 6
- UN 2754 – the word “flammable” is deleted from the first sentence in the properties and observations in column 17
- UN 2814/ 2900 - In column 16a, SW7 is replaced with "Category E, SW2, H1, H5; in column 16b, SG50 is added
- UN 3129, PGIII – in column 6, SP76 is deleted; SW5 is added to column 16a
- UN 3132/ 5, PGI – in column 6, SP76 is deleted; Category D is added to column 16a
- UN 3132/ 5, PGII and PGIII – in column 6, SP76 is deleted; Category E and SW5 and is added to column 16a
- UN 3164 – PP32 is added to column 9
- UN 3291 – PGII is deleted from column 5
- UN 3363 – new alternate PSN in column 2 added “DANGEROUS GOODS IN ARTICLES”
- UN 3389 - the properties and observations in column 17 have been amended
- UN 3481 – in column 6, SP390 is added
- UN 3500 – in column 9, PP97 is added
- UN 3529 – in column 6, SP356 is added

The following new UN Numbers are added:

(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			395 975	0	E0	P622 LP622							F-A, S-T	Category E SW2 H1 H5	SG50	Waste containing substances which are dangerous to humans and/or animals.

3.3 – Special Provisions

The following Special Provisions have been amended: 172, 274, 301, 308, 309, 327, 356, 360, 363, 370, 376, 379, 388, 392, 959.

The following changes are of note:

SP274 – has new paragraphs added which now says that the technical name cannot be the PSN of any UN Number, except that for 3077 and 3082 only, it may be one that does not include N.O.S. and does not itself have SP274, A valid example is UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (paint)

SP327 – now specifically mentions and incorporates wastes gas cartridges.

SP363 - has the placarding provisions in items 10 and 11 are updated and clarified

SP76 and **SP951** are deleted

There are the following new special provisions:

SP123 – applies to when something is only regulated when transported by air or by sea.

SP390 – applicable requirements for when a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment

SP393/ 394 – regarding nitrocellulose and the applicable tests in the Manual of Tests and Criteria Appendix 10

SP395 – applies to solid medical waste of Category A transported for disposal

SP975 – applies to MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid being shipped on short international voyages

SP976 - prohibits transport without competent authority approval of the competent authorities of the port State of departure, port State of arrival and flag State

Part 4: Packing and Tank Provisions

In **4.1.1.3**, there is a new subparagraph allowing packagings, including IBCs and large packagings, to conform to one or more design types and be marked accordingly

In **4.1.1.21**, there is a new subparagraph stating that packagings, including IBCs and large packagings, should not be filled while they remain on board (unless for salvage purposes)

There are also updates to the class specific packaging requirements including for class 2 and also for class 7. In both **4.1.9.1.8** and **4.1.9.2.4** there are new subparagraphs .5 to reflect the new SCO-III classification

There are several changes to existing packing instructions and provisions, of note:

P003, PP32 is amended and there is a new PP96 added applicable to UN 2037

P200, in paragraph 4 the ISO standard referenced has been updated; in table 2 the PSN for the entry 1082 has been corrected; in table 2 and 3 the footnotes have been updated;

P206, a new PP97 applicable UN 3500 has been added

P903, there is a new paragraph (5) for packaging containing both cells or batteries packed with equipment and contained in equipment

P907, there is clarification that the instruction applies to ‘articles’ such as machinery, apparatus or devices of UN 3363

There are the following new packing instructions:

P622, applying to waste of UN 3549 transported for disposal

P801, applying to batteries of UN 2794, 2795 and 3028 has been replaced

Provisions for IBCs and large packagings

In **4.1.4.2**, for IBC packing instructions IBC520 there have been new technical entries for UN 3119

In **4.1.4.3**, for large packaging instruction LP200, it now also applies to UN 2037 and the special packing provision, L2, has been updated. There is a new packing instruction LP622 which applies to waste of UN 3549 transported for disposal

Provisions for tank containers

For tanks, there are the following notable changes:

4.2.3.7.3 – new documentation requirement referring to the new 5.4.1.5.18 [note, actually this says 5.4.1.5.13 in the change instructions. It needs a validation change]

4.2.4.5.7 – new paragraph stating that MEGCs must not be filled or discharged while they remain onboard a vessel.

4.2.5.3 – TP19 has been amended

Part 5: Consignment procedures

There have been the following notable changes in the consignment chapter:

In chapter 5.1 there are several changes to the general provisions for class 7. These include revisions to the text to incorporate the new SCO-III classification criteria. Subparagraph 5.1.5.3.2 concerning the determination transport index (TI) has also be updated.

5.2.1.1 – there has been clarification on the units used for cylinders of 60 litres water capacity or less

5.2.1.5.6 – there is a new sentence added to clarify that package marks not related to the UN Number and PSN of the radioactive material being shipped should be removed

5.2.1.10.2 – the size specifications for the lithium battery mark have been amended and slightly reduced and can now be square in shape

In 5.3.1.1.5.1, unpackaged LSA-I material or SCO-I are now specifically mentioned in the placarding provisions for class 7.

In 5.3.2.1.1, unpackaged SCO-III is now included in the requirements to display a UN Number on the consignment

With regards to documentation, the information which supplements the PSN in the dangerous goods description section, 5.4.1.4.3, has been amended. Firstly, subparagraph .6 is now updated to specifically reference subsidiary hazards as well, and the exemption from this for organic peroxides is removed. There is a new sub-paragraph .7 requiring that 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" must be indicated on the dangerous goods transport document.

In 5.4.1.5.7.1, subparagraphs .4 and .5 have been amended and cross-referenced with the applicable general provisions in section 5.1.5 and the new SCO-III classification is added in subparagraph .10.

Finally, there is a new paragraph 5.4.1.5.18 requiring the end of the actual holding time to be added to the dangerous goods transport document for portable tanks carrying refrigerated gases.

In chapter 5.5 relating to fumigated cargo transport units, paragraph 5.5.2.5.1 is removed (note this is still covered in 3.4.1.6 in the recommendations on the safe use of pesticides in ships applicable to the fumigation of CTUs in the Supplement to the IMDG Code), with subsequent paragraphs renumbered and the existing 5.5.2.5.3 (now 5.5.2.5.2) also amended.

In 5.5.3.6, the warning mark has been amended thus:

There is a new 5.5.4 relating the applicability of the provisions of the IMDG Code for dangerous goods in equipment or intended for use during transport e.g. lithium batteries, fuel cell cartridges contained in equipment such as data loggers and cargo tracking devices, attached to or placed in packages etc.



Asphyxiation warning mark for cargo transport units

Part 6: Construction and testing of packagings, IBCs, large Packagings, Portable Tanks, MEGCs and Road Tank vehicles

There are several changes in most chapters. Notable changes include:

6.1.1.1.5 – this is amended to show that the new UN 3549 is covered by chapter 6.1

6.1.3.1.3 – there is a new paragraph confirms that a packaging that conforms to one or more than one tested design type may bear more than one UN specification packaging mark to indicate the relevant performance test requirements that have been met. This also applies to IBCs and large packagings, **6.5.2.1.3** and **6.6.3.4** respectively

In **6.1.4.2.6** and **6.1.4.3.6** there are new paragraphs regarding compatibility of materials used in the packaging and the goods carried within.

In chapter 6.2 several of the ISO standard references have been updated; **6.2.2.7.2** and **6.2.2.9.2** has a new note added after sub-paragraph (c) clarifying country of approval certification mark

Chapter 6.3 now reads ‘Provisions for the construction and testing of packagings for class 6.2 infectious substances of category A (UN 2814 and UN 2900)’ to clarify applicability, likewise **6.3.1.1** is updated similarly. There are also minor updates to the marking and test provisions in sections 6.3.4 and 6.3.5 respectively.

In chapter 6.4 concerned with radioactive materials there are several changes and amendments throughout. There is a new **6.4.23.2.1** regarding the approval of SCO-III shipments

For IBCs, the additional marking requirements in **6.5.2.2**. have been updated and there is a new introductory sentence in **6.5.5.1.6** applying to metal IBCs.

For tanks, there are new paragraphs **6.7.2.19.6**, **6.7.3.15.6** and **6.7.4.14.6** regarding tanks which have missed the timeframe for their scheduled inspections

In **6.8.1.1** regarding tanks and elements support frameworks, fitting and tie-down attachments the IMO resolutions have been added to with the addition of ‘Guidelines for securing arrangements for the transport of road vehicles on ro-ro ships, as amended by MSC/Circ.812 and MSC.1/Circ.1355’. This is also referenced later on in the chapter.

Part 7: Provisions Concerning Transport Operations

The stowage provisions included in **7.1.4.2** applicable to marine pollutants have now also been applied to infectious substances of UN 2814, 2900 and 3549

In **7.1.4.5**, there are now provisions and criteria for SCO-III in .1, and in 7.1.4.5.3.3. is amended.

In **7.1.5**, stowage code SW22 is amended to also apply to waste gas cartridges as well as waste aerols

In **7.1.6**, there is a new handling code applicable to class 6.2 infectious substances:

H5 - Avoid handling the packaging or large packaging or keep handling to a minimum. Inform the appropriate public health authority or veterinary authority where persons or animals may have been exposed.

In **7.2.8** the following segregation groups have been revised:

For SG27, SG28 and SG34, replace "away from" with "separated from".

For SG48, delete the words "Combustible material does not include packing materials or dunnage."

SG53 is revised and changes from 'separated from' liquid organic substances to *"Shall not be stowed together with combustible material in the same cargo transport unit"*, so it also covers solids and inorganics, and it no longer requires segregation between CTUs.

In **7.8.4** regarding special provisions for incidents involving radioactive material, the text in **7.8.4.3** has been replaced, likewise the text in **7.8.4.5** which now refers to further guidance in various IAEA publications.

The **Emergency Response Schedules** have been updated to the latest Amdt40 changes. This includes updating the spillage schedule 'S-S' for radioactive material.

The Index to the emergency response is updated to reflect recent changes, primarily concerning corrections to replace spillage provisions with underlined equivalents to take into account the special cases that apply to marine pollutants, and adding several entries to take into account distinctions in provision of emergency schedules as per packing groups.

This summary was produced by Exis Technologies, supplier of Hazcheck Systems for compliance in the management of dangerous goods in sea transport and e-learning courses for the transport industry. Exis has been part of the NCB Group since 2018 and together their not for profit mission is the Safety of Life and Cargo at Sea. www.existec.com

IMPORTANT:

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