

Australian Code for the Transport of Dangerous Goods by Road & Rail: differences between edition 7.7 and edition 7.8

Edition 7.8 of the *Australian Code for the Transport of Dangerous Goods by Road & Rail* (the Code) includes UN and Australian based changes.

As part of the biennial update to the Code, a full comparison of provisions in the Code was completed against the source wording in the UN Model Regulations (UN MR). This has identified many translation and other discrepancies that have occurred over time. All identified differences were discussed by the maintenance advisory group and the provisions amended accordingly. Included in the translation errors were a number of definitions used throughout the UN MR. Where the definition in the ADG Code differed from that in the UN MR, these have been realigned to the UN MR. These definitions are integral to the cohesiveness of the provisions in the Code

In addition, the secretariat responsible for the UN MR has conducted a general clean-up of the UN MR, including; replacing some hyphenated bullet lists with numbered lists, .e.g. (a), (b), etc.; minor reformatting of some clauses; global replacement of 'water resistant' with 'water-resistant'. All attempts have been made to identify these changes and incorporate them into the ADG Code.

Below is a summary of the important changes from edition 7.7 of the Code and the *Model Subordinate Instrument on the Transport of Dangerous Goods by Road or Rail* (the MSI). Refer to the actual section of the Code or the MSI to understand the change. References to changes to the MSI appear in ***bold and italic*** in the corresponding entry for the change in the Code.

Information contained in this document is intended for reference purposes only. Where there is a discrepancy between the information in this document and the text in the Code or MSI, the wording in the Code or MSI takes precedence.

GENERAL

Area	Subsection	Explanation of Change
UN amendments	Throughout	Incorporation of UN 22 amendments and UN 21 Corrigendum
Websites	Throughout	Update of website addresses, where required
Names	Throughout	Update of Department and company names and addresses, where required
Clause numbers	Throughout	Some renumbering of clauses for correction of number sequencing
Cross referencing	Throughout	Cross references updated
Referenced Standards	Throughout	Several referenced Standards have been updated
Translation, typographical and editorial corrections	Throughout	Includes typographical, editorial and translation errors that have occurred since the commencement of ADG 7
Terminology – pressure vessels	Throughout	Terminology relating to pressure vessels, pressure drums, cylinders, etc. has been broken down to distinguish the various components and all relevant clauses amended accordingly

FURTHER EXEMPTIONS FOR VERY SMALL CONSIGNMENTS

Area	Subsection	Explanation of Change
Exempted consignments	1.1.1.2(3) and Regulation 1.1.6(2)	The exempted consignments have been updated in response to the significant changes to both the UN Model Regulations and the ADG Code in the years since this provision was first introduced. These changes include, among other matters, the introduction of concessions for dangerous goods packed in limited quantities and the introduction of new UN entries for Lithium batteries. Table 1.1.1.2 had not been updated to reflect these changes, resulting in several deficiencies and conflicts between the current table and other requirements in the Code.
Exempted consignments	1.1.1.2(3) and Table 1.1.1.2	<p>The table has been updated to:</p> <ul style="list-style-type: none"> • exclude dangerous goods with an LQ value of '0' in column 7a of the Dangerous Goods List. • Remove the column for Division 4.2 as these substances are not permitted to be transported as LQ, making the column is redundant. • Update the quantities for Division 5.2 to distinguish between organic peroxides type B or C and organic peroxides D, E or F, and liquids vs solids • Provide clarity for classes/divisions that do not having packing groups assigned. • Ensure these exemptions are not used to allow the transport of quantities that were not foreseen at the time the exemption was initially introduced.

PART 1 – GENERAL PROVISIONS, DEFINITIONS AND INTERPRETATION

Area	Subsection	Explanation of Change
Definitions - general	1.2.1	<ul style="list-style-type: none"> Terms not used in the Code have been deleted All terms have been consolidated into a single alphabetical list under 1.2.1. Terms also defined in the regulations are noted with an * Terms defined in the plural have been amended to the singular. Terms that have been taken from the UN MR have been corrected to replicate the definition as per the UN MR. Consistency with the definitions in the UN MR is seen as critical due to the interdependency of associated requirements
Definitions - specific		
a) ANZ-ERG	1.2.1	New
b) Bulk container	1.2.1 MSI 1.2.6	Aligned to definition in the UN MR
c) Bundle of cylinders	1.2.1	Core definition aligned to the UN MR. Australian added Note to incorporate Determination VCAP-01-DET CA 2010-12 which provided concessions for bundles of cylinders that meet certain conditions to be treated as individual cylinders for the purpose of determining capacity, rather than the total combined capacity of all cylinders in the bundle.
d) Capacity	1.2.1 MSI 1.2.1	Amended to provide clarification for receptacles that are manifolded together, e.g. MEGCs
e) Cargo transport unit	1.2.1 MSI 1.2.1	Definition aligned to UN MR.
f) Closed cryogenic receptacle	1.2.1	New (UN)
g) Closure	1.2.1	Note added by UN
h) Cryogenic receptacle	1.2.1	Deleted (UN)
i) Dangerous goods	1.2.1 MSI 2.1.1	Clarification added regarding entries described in the ADG Code as 'not subject to this Code'
j) Dangerous goods packed in limited quantities	1.2.1 MSI 1.2.9	Definition simplified
k) Freight container	1.2.1 MSI 1.2.9	Aligned to ADR definition of 'Container' to enable use of non-CSC approved freight containers for domestic use
l) Inner vessel	1.2.1	New (UN)
m) IBC	1.2.1 MSI 1.2.7	Minor rewording
n) MSDS	1.2.1	Deleted
o) Nominally empty	1.2.1	New
p) Not subject to this Code	1.2.1	New
q) Outer packaging	1.2.1	Aligned to UN MR

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	MSI 1.2.1	
r) Package	1.2.1 ML 4(1)	Aligned to UN MR
s) Placardable unit	1.2.1	Simplified to remove contradictions with other definitions
t) Portable tank	1.2.1	Aligned to definition in the UN MR. Alignment with the UN definition of 'portable tank' is critical to the Code as it is a core definition on which columns 10 & 11 of the DG list, provisions 4.2.5, Chapter 6.7 and other provisions are interdependent.
u) Pressure drum	1.2.1	'transportable' deleted (UN)
v) Pressure receptacle	1.2.1	Amended by UN
w) Pressure receptacle shell	1.2.1	New (UN)
x) Recycled plastics material	1.2.1	Additional text added to Note (UN)
y) Self-accelerating decomposition temperature (SADT)	1.2.1	Aligned to UN MR
z) Service equipment	1.2.1	New (UN)
aa) Tank	1.2.1 MSI 1.2.11	Aligned to UN MR
bb) Tube	1.2.1	'transportable' deleted (UN)
cc) Ullage	1.2.1	New
dd) Working pressure	1.2.1	Definition expanded to include specific criteria for UN 1001 and UN 3374 (UN)
Units of measurement	1.2.2.1	'Electrical resistance' added (UN)
Referenced standards, codes, etc.		
a) Standards references	1.2.3.2.2	Amended to include a 12 month transition period for referenced codes, standards, international rules, etc. that do not include a specified transition period.
b) Referenced Standards	Table 1.1	Standards no longer used in the Code have been deleted

PART 2 – CLASSIFICATION

Area	Subsection	Explanation of Change
Transport of Samples	2.0.4.3.1	Concentration limits added for PG III. This text was missed when 2.0.4.3 was first introduced in ADG 7.6
Assigned self-reactive substances in packagings	Table 2.4.2.3.2.3	New entry for 7-METHOXY-5-METHYL-BENZOTHOPIHEN-2-YL) BORONIC ACID, including new Table Note: 11
Oxidising solids - assignment of packing groups	2.5.2.2.2(b) Test O.3	This clause was incorrectly worded when added to the ADG Code in 2013. For each of the packing groups, the words ' burning time ' have been replaced by ' burning rate '. The burning rate criteria has also been corrected from ' less than ' to ' greater than '.

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Area	Subsection	Explanation of Change
Assigned organic peroxides in packages	Table 2.5.3.2.4	New entries added for: <ul style="list-style-type: none"> – ACETYL ACETONE PEROXIDE ≤ 35% – tert BUTYLPEROXY ISOPROPYLCARBONATE ≤ 62% – tert-HEXYL PEROXYPIVALATE ≤ 52 as a stable dispersion in water New Table Note (32)
Assignment of PG to substances and mixtures of Class 8	2.8.3.2	Additional text added to clarify assignment of PG when test method does not allow discrimination between PG
Environmentally Hazardous Substances (aquatic environment)		
a) definition of 'substance'	2.9.3	Definition added for the purpose of section 2.9.3. UN 16 amendment not included in ADG Code
b) Mixtures classification categories and criteria	2.9.3.4.1	Concentrations added for ingredients classified as Acute and/or Toxic and for other ingredients. Correct concentrations have been missing since UN 16
c) Classification for categories Chronic 1 and 2	2.9.3.4.3.4 (a)(i)	New Note added to clarify when classification for long-term hazard is not required
Lithium Batteries	2.9.4(g)	Amended to exclude button cells installed in equipment (including circuit boards) from the requirement to make available the test summary.

PART 3 – DANGEROUS GOODS LISTS, SPECIAL PROVISIONS AND LIMITED QUANTITIES EXCEPTIONS

Area	Subsection	Explanation of Change
Proper Shipping Name		
3.1.2	Notes	Note 1 deleted and Notes 2 and 3 renumbered to 1 and 2 respectively
Examples illustrating the selection of proper shipping names	3.1.2.2	Examples replaced with those from the UN MR as neither the UN number nor the PSN in the existing examples were correct. Using the examples in the UN MR will ensure amendments are picked up and that the information remains correct.
Dangerous goods list		
a) Introduction	3.2.0 Notes	Note 1 deleted and remaining Notes renumbered accordingly
b) Table headings	Column 5	Corrected to UN Packing Group
c) Corrections to Packing Instructions	Table 3.2.3 (columns 8 & 9)	Historical errors in the listed Packing Instructions have been corrected for the following entries <ul style="list-style-type: none"> • UN Nos. 0118, 0146, 0151, 0214, 0215, 0220, 0266, 0282, 0401 – P112 amended to P112(a), P112(b) or P112(c) • UN 0508 – PP50 added • UN 1001 – PP23 deleted

Area	Subsection	Explanation of Change
		<ul style="list-style-type: none"> • UN Nos. 1597 (PGIII), 1658 (PGIII), 1835 (PGIII), 1938 (PGIII), 2669 (PGIII) – IBC02 deleted and replaced with IBC03, LP01 added • UN 1748 – PP85 added • UN 2186 – P200 deleted • UN 2880 – PP85 added • UN 3249 – PP6 deleted • UN 3250 – PP6 deleted • UN 3407 (PGII and PGIII) – IBC01 deleted and replaced with IBC02 • UN 3486 – L3 added • UN 3532 – PP3 deleted and replaced with PP93 • UN 3534 – PP3 deleted and replaced with PP93
d) Amended classifications	Table 3.2.3 3.2.4	<ul style="list-style-type: none"> • UN 1834 – reclassified to Division 6.1 with a subsidiary hazard of Class 8 • UN 1891 – reclassified to Class 3 with a subsidiary hazard of Division 6.1, LQ amended to 1 L and EQ amended to E2
e) New entries	Table 3.2.3 3.2.4	<p>The following new entries are included</p> <ul style="list-style-type: none"> • UN 3550 – COBALT DIHYDROXIDE POWDER, containing not less than 10 % respirable particles
f) Deleted entries	Table 3.2.3 3.2.4	UN 1169 (see amended proper shipping name for UN 1197)
g) Amended Proper Shipping Names	Table 3.2.3 3.2.4	<p>The following proper shipping names are amended</p> <ul style="list-style-type: none"> • UN 1197 – amended to ‘EXTRACTS, LIQUID, for flavouring or aroma’ • UN 2913 – amended to ‘RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I, SCO-II or SCO-III), non-fissile or fissile-excepted’ • UN 3268 – amended to ‘SAFETY DEVICES, electrically initiated’ <p>The following historical errors are corrected</p> <ul style="list-style-type: none"> • UN 3474 – ‘with not less than 20% water. By mass’ deleted • UN 3481 – ‘including lithium ion polymer batteries’ added • UN 3488 – amended to ‘TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC₅₀ lower than or equal to 200 ml/m³ and saturated vapour concentration greater than or equal to 500 LC₅₀’ • UN 3489 – amended to ‘TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC₅₀ lower than or equal to 1000 ml/m³ and saturated vapour concentration greater than or equal to 10 LC₅₀’ • UN 3490 – amended to ‘TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. with an LC₅₀ lower than or equal to 200 ml/m³ and saturated vapour concentration greater than or equal to 500 LC₅₀’ • UN 3491 – amended to ‘TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. with an LC₅₀ lower than or equal to 1000 ml/m³ and saturated vapour concentration greater than or equal to 10 LC₅₀’

Area	Subsection	Explanation of Change
		<ul style="list-style-type: none"> UN 3508 – amended to ‘CAPACITOR, ASYMMETRIC (with an energy storage capacity greater than 0.3 Wh)’
h) Excepted quantities	Table 3.2.3 (column 7b)	<p>EQ values have been amended for the following entries</p> <ul style="list-style-type: none"> UN 3208 (PGII) – E0 deleted and replaced with E2 UN 3209 (PGII) – E2 deleted and replaced with E0 UN 3269 – E0 deleted and replaced with ‘See SP 340 in Chapter 3.3’ UN 3527 – E0 deleted and replaced with ‘See SP 340 in Chapter 3.3’
i) Special provisions	Table 3.2.3 (column 6)	<p>The following special provisions have been added:</p> <ul style="list-style-type: none"> UN 1002 – SP 397 UN 1012 – SP 398 UN 3269 – SP 340 UN 3481 – SP 390 (incorrectly added to UN 3480) UN 3497 (PGIII) – SP 223 UN 3538 – SP 396 <p>Special provision 392 has been added to the following UN numbers (this was a UN 20 amendment that was not picked up at the time)</p> <ul style="list-style-type: none"> UN 1011, UN 1049, UN 1075, UN 1954, UN 1965, UN 1969, UN 1971, UN 1978, <p>The following special provisions have been removed:</p> <ul style="list-style-type: none"> UN 3480 – SP 390
j) Portable tanks and bulk containers	Table 3.2.3 (columns 10 and 11)	<p>The following historical errors are corrected:</p> <ul style="list-style-type: none"> UN 2626 – T3 deleted and replaced with T4, TP33 deleted and replaced with TP1 UN 2900 – BK1 and BK 2 added UN 3375 – T2 deleted UN 3378 (PGII) – BK3 deleted UN 3378 (PGIII) – BK3 added
Alphabetical list	3.2.4.2	Several entries amended to correctly reflect the Dangerous Goods List
Generic and N.O.S. proper shipping names	Table 3.3	Several entries amended to correctly reflect the Dangerous Goods List
Special Provisions, 3.3.2		
a) Lithium batteries	188	Amended to incorporate additional text to (e) which was missed when incorporating UN 17 amendments
b) Portable fire extinguishers	225	Note added to (a) to clarify that SP applies to portable fire extinguishers even when some components have been temporarily detached
c) Packing group for chemical kits or first aid kits	251	wording corrected to clarify PG to be shown on transport documentation (historical error)
d) Packing instructions for damaged or defective cells or batteries	310	The reference to specific packing instructions for damaged or defective cells or batteries contained in equipment have been deleted.
e) Ethanol concentration	333	The bracketed text (with more than 10% Ethanol) has been deleted (historical error)

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Area	Subsection	Explanation of Change
f) Classification of environmentally hazardous substances	335	Additional text added re classification of environmentally hazardous substances when free liquid is visible at time of loading. (historical error)
g) Drop test	339	Wording amended slightly for clarification (historical error)
h) Uranium hexafluoride	369	Missing paragraph reinstated (paragraph disappeared in the update between ADG 7.5 and 7.6)
i) Packing instructions for damaged or defective cells or batteries	377	The reference to specific packing instructions for damaged or defective batteries has been deleted.
j) Large and robust articles with connected gas cylinders	396	New SP for specifying the conditions under which large and robust articles can be transported with connected gas cylinders with the valves open.
k) Mixtures of nitrogen and oxygen	397	New SP relating to mixtures of nitrogen and oxygen containing not less than 19.5 % and not more than 23.5 % oxygen by volume
l) Mixtures of butylenes	398	New SP
m) Transport of unodourised LP Gas, Propane or Butane	AU03	Amended to remove the requirement to obtain an exemption from the Competent Authority when transporting in South Australia.

PART 4 – PACKING, TANK, CONTAINER, VEHICLE AND EQUIPMENT PROVISIONS

Area	Subsection	Explanation of Change
React dangerously	4.1.1.6	Previously omitted text defining 'react dangerously' has been added (historical omission)
Period of permitted use of composite IBCs	4.1.1.15	Note added to clarify that the period of permitted use for composite IBCs refers to the inner receptacle
Use of salvage packagings	4.1.1.18.2	Requirements for salvage packagings used for damaged or leaking packages containing liquids corrected (historical error)
Salvage pressure receptacles	4.1.1.19.2	Maximum size of placed pressure receptacle removed and total water capacity of all placed pressure receptacles increased from 1,000 litres to 3,000 litres
Mass or volume limits for single or combination packagings	4.1.3.3	Text added re application of mass or volume limits where packagings are not required to meet 4.1.1.3
Packing instructions – new or amended		
a) Maximum net mass of packagings	P003, P005, P006, P130, P144, P408, P801, P903, P905, P906, P907, P909, P910	Note added to clarify when packagings authorised may exceed a net mass of 400 kg
b) Outer packagings	P003	New PP added (PP96) for UN 2037 waste gas cartridges carried in accordance with SP 327

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Area	Subsection	Explanation of Change
c) UN Nos. 0059, 0439,0440 and 0441	P137	Wording in PP70 amended re marking of packages
d) Pressure receptacles	P200	Wording in (5) (d) expanded to include composite pressure receptacles with steel liners New requirements added to (5) (z) for mixtures of fluorine and nitrogen
e) Liquefied gases and dissolved gases	P200 Table 4.1.4.1B	Entries for obsolete UN numbers deleted LC ₅₀ for UN Nos. 1008, 2196 and 2198 amended Permitted receptacles for UN Nos. 2196 and 2198 amended
f) Substances not in Class 2	P200 Table 4.1.4.1C	LC ₅₀ for UN 1052 amended
g) Permitted packings	P621	Additional types of drums and jerricans have been added to the permitted packing types
h) Lithium cells or batteries	P903	(2) - amended to clarify application for a single cell or battery with a gross mass of 12 kg or more (4) and (5) - slightly re worded for clarity
i) Damaged or defective lithium cells or batteries	P911	New additional requirement added for multiple batteries or multiple items of equipment containing batteries
j) Cobalt dihydroxide	IBC07	New special packing provision (B20) added
k) Organic peroxides and self-reactive substances	IBC520	Wording added to include formulations not listed in 2.4.2.3.2.3 and 2.5.3.2.4 Historical errors for entries listed under UN 3119 corrected
l) Damaged or defective batteries	LP906	Requirements added re: <ul style="list-style-type: none"> information to be contained in the verification report availability of specific instructions on use of packaging additional table not added for multiple batteries or multiple items of equipment containing batteries

Special packing provisions for goods of Class 2

(a) Working pressures	4.1.6.1.6	Reworded for clarity
(b) Refillable pressure receptacles	4.1.6.1.10	<ul style="list-style-type: none"> exception for 'cryogenic receptacles' amended to 'closed cryogenic receptacles' previously omitted text added re prohibition on filling pressure receptacles after they become due for periodic inspection (historical omission)
(c) Repairs	4.1.6.1.11	<ul style="list-style-type: none"> Previously omitted text added re prohibited repairs (historical omission)

Portable tank instructions

(a) Fibre-reinforced plastics portable tanks	4.2.5	Minor amendments throughout to allow for the introduction of Fibre-reinforced Plastics Portable Tanks (see Chapter 9)
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Area	Subsection	Explanation of Change
(b) Organic peroxides and self-reactive substances	T23	<ul style="list-style-type: none">• Wording added to include formulations not listed in 2.4.2.3.2.3 and 2.5.3.2.4• New entry added for tert-Butyl hydroperoxide, not more than 56% in diluent type B• Corrections to some Table Notes
Bulk containers – visual examination before filling	4.3.1.15	<ul style="list-style-type: none">• List of included major defects deleted and new list inserted

PART 5 – CONSIGNMENT PROCEDURES - INCLUDING LABELLING, MARKING AND PLACARDING

Area	Subsection	Explanation of Change
Marking and Labelling		
a) Application of marking	5.2.1.1	Redundant text and Notes deleted
b) Orientation arrows	5.2.1.7	references to 'cryogenic receptacles' replaced with 'closed or open cryogenic receptacles'
c) Lithium battery mark	5.2.1.9.2 and Figure 5.2.5	Requirement to include a telephone number deleted and Note added to permit continued use until 31 December 2026

PART 6 – REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PACKAGINGS, IBCS, LARGE PACKAGINGS, PORTABLE TANKS, MEGCS, BULK CONTAINERS, TANK VEHICLES, FREIGHT CONTAINERS & SEGREGATION DEVICES

Area	Subsection	Explanation of Change
Design and construction of pressure receptacles, aerosol dispensers, gas cartridges and fuel cell cartridges		
Terminology	6.2.1	Minor amendments to terminology throughout to distinguish between cylinders, cylinder shells and inner vessels
Scope	6.2.1.1.1	Clause amended to exclude 'closures' and include 'intended use'
Materials	6.2.1.2	Clauses amended to exclude 'closures'
Service equipment - scope	6.2.1.3.1	Reworded for clarity on what is excluded
Service equipment – design to prevent damage	6.2.1.3.2	Wording rearranged for clarity
Approvals	6.2.1.4	<ul style="list-style-type: none"> Some text removed from 6.2.2.4.1 and inserted as a new clause (6.2.1.4.3) New requirement (6.2.1.4.4) added covering conformity assessments
Inspection and testing		
(a) Initial inspection and testing	6.2.1.5.1 and 6.2.1.5.2	<ul style="list-style-type: none"> Minor amendments to terminology for clarification Additional detail added on items that must be tested and inspected
(b) Initial inspection and testing - bundles of cylinders	6.2.1.5.4	<ul style="list-style-type: none"> New clause added
(c) Periodic inspection and testing	6.2.1.6.1	<ul style="list-style-type: none"> Minor amendments to terminology for clarification (d) Note 3 reworded and new Note 4 added New (f) added
(d) Proficiency test of manufacturers	6.2.1.7.2	<ul style="list-style-type: none"> Clause expanded to provide more detail on when proficiency testing must be done and who by
Referenced Standards for UN pressure receptacles		
a) Pressure receptacles	6.2.2.1.1	<p>The following updates have been made to ISO 9809:</p> <ul style="list-style-type: none"> Name updated to 'Gas cylinders – Design, construction and testing of refillable seamless steel gas cylinders and tubes Part 2: Quenched and tempered steel cylinders and tubes with tensile strength greater than or equal to 1100 MPa Updated version published 2019 Part 3: Normalized steel cylinders and tubes. Updated version published 2019

Area	Subsection	Explanation of Change
		<p>The title of ISO 11119:2012 has been amended to 'Gas cylinders– Refillable composite gas cylinders and tubes – Design, construction and testing'.</p> <p>A Note has been added in relation to ISO 11119-3: 2002 and 2013 to specify that the Standard is not to be used for linerless tubes manufactures two parts joined together</p> <p>The following Standards have been deleted:</p> <ul style="list-style-type: none"> • ISO 11118:1999 Gas cylinders – Non-refillable metallic gas cylinders – Specification and test methods • ISO 11118:2015 Gas cylinders – Non-refillable metallic gas cylinders – Specification and test methods <p>Minor amendments have been made to the Table Notes</p>
b) UN tubes	6.2.2.1.2	<p>Reference to ISO 11515:2013 updated to include amendment 1:2018</p> <p>Three new references added - ISO 9809:219 (parts 1, 2 and 3)</p> <p>Minor amendments have been made to the Table Notes</p>
c) UN acetylene cylinders	6.2.2.1.3	<p>The following updates have been made to ISO 9809:</p> <ul style="list-style-type: none"> • Name updated to 'Gas cylinders – Design, construction and testing of refillable seamless steel gas cylinders and tubes • Part 1: Quenched and tempered steel cylinders and tubes with tensile strength less than 1100 MPa Updated version published 2019 • Part 3: Normalized steel cylinders and tubes. Updated version published 2019
d) Closed cryogenic receptacles	6.2.2.1.4	<p>An updated reference has been added for ISO 21029-1:2018 + Amd.1:2019</p>
e) UN metal hydride storage systems	6.2.2.1.5	<p>An updated reference has been added for ISO 16111:2018</p>
f) UN bundles of cylinders	6.2.2.1.6	<p>An updated reference has been added for ISO 10961:2019</p> <p>The Note has been reworded for clarity and extended to cover the replacement of service equipment</p>
g) UN cylinders for adsorbed gases	6.2.2.1.7	<p>Updated references have been added for ISO 11513:2019 and ISO 9809-1:2019</p>
h) UN pressure drums	6.2.2.1.8	<p>An updated reference has been added for ISO 21172-1:2015 + Amd.1:2018</p>
i) Non-refillable UN cylinders	6.2.2.1.9	<p>New provision and table of referenced Standards for non-refillable UN cylinders</p>
j) Service equipment	6.2.2.3	<p>Title amended to 'closures and their protection'</p> <p>An updated reference has been added for ISO 11117:2019</p> <p>Reference to ISO 13340:2001 has been deleted</p>

Area	Subsection	Explanation of Change
		<p>A Note has been added to ISO 17871:2015 prohibiting its use for flammable gases</p> <p>An updated reference for ISO 17871:2020 has been added.</p> <p>An updated reference for ISO 16111:2018 has been added</p>
k) Periodic inspection and test	6.2.2.4	<p>New reference added for ISO 18119:2018</p> <p>Updated reference added for ISO 18119:2018</p> <p>Updated reference added for ISO 10460:2005</p> <p>Updated reference added for ISO 10462:2013 + Amd1:2019</p> <p>Updated reference added for ISO 11513:2019</p> <p>Deleted - ISO 11623:2002 notice</p> <p>New reference added for ISO 23088:2020</p> <p>Updated reference added for ISO 16111:2018</p>

Conformity assessment system and approval for manufacture of pressure receptacles

a) Definitions	6.2.2.5.1	Clause number amended to 6.2.2.5.0 and new Note added to define the term 'pressure receptacle' for the purpose of the subsection.
b) Conformity assessment	6.2.2.5.1	New
c) Approval process – inspection body	6.2.2.5.4.9(c)	<ul style="list-style-type: none"> Sub (c) amended requiring tests to be carried out and supervised as per the relevant standard or technical code Clause extended to cover when compatibility assessment unable to be completed

Marking of refillable UN pressure receptacles

a) Cross references	Note	Extended to include cross reference for marking of closures
b) Scope	6.2.2.7.1	Minor amendments to terminology
c) UN certification marks	6.2.2.7.2	<ul style="list-style-type: none"> Note added to sub (b) to include ISO 3807 on marks for acetylene cylinders Note added at end regarding marking of acetylene cylinders
d) Operational marks	6.2.2.7.3	<ul style="list-style-type: none"> Minor wording amendment to sub (g) New Note added to sub (i) for acetylene cylinders Sub (k) (UN 1001) reworded Sub (l) (UN 3374) reworded
e) Manufacturers marks	6.2.2.7.4	<ul style="list-style-type: none"> New Note added to sub (n) re acetylene cylinders
f) Marking on neck rings	6.2.2.7.8	Clause reworded to allow use for all cylinders and pressure drums and remove requirement for agreement of the competent authority

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Area	Subsection	Explanation of Change
Marking of non-refillable UN cylinders	6.2.2.8	Terminology and cross references updated
Marking bundles of cylinders	6.2.2.10	Minor amendment to terminology for clarification
Marking of closures for refillable UN pressure receptacles	6.2.2.11	New clause specifying marks to be applied
Internal pressure of aerosols	6.2.4.2	<ul style="list-style-type: none"> • New clauses specifying the allowable internal pressure of aerosols based on the type of gas(es) contained • Subsequent clauses renumbered and cross reference updated
Quality assurance program for manufacture and testing of packages	6.3.2.2	Reference in Note updated to ISO 16106:2020
Drop test for drums and jerricans	6.3.5.3.2.2	Expanded to include jerricans and minor updates to terminology
Requirements for IBCs	6.5.1.1.2	Clause reworded and appropriate cross references included for clarity
IBCs manufactured from recycled plastics materials	6.5.2.1.2	<ul style="list-style-type: none"> • New clauses regarding marking of IBCs manufactured from recycled plastics materials • Subsequent clauses renumbered
Quality assurance for IBCs	6.5.4.1	ISO reference in Note updated to ISO 16106:2020
Tests and inspections of repaired IBCs	6.5.4.5.3	Corrections made to replace 'repair' with 'tests and inspections'
Materials for rigid plastics IBCs	6.5.5.3.2	Additional text added regarding use of recycled plastics materials
Materials for composite IBCs with plastics inner receptacles	6.5.5.4.6	Additional text added regarding use of recycled plastics materials
Use of used materials in manufacture	6.5.5.4.9	Clause deleted and subsequent clauses renumbered
Applicability of vibration test for IBCs	6.5.6.13.1	Note added re test only applicable to IBCs manufactured from 1 January 2011
Quality assurance for large packagings	6.6.1.2	ISO reference in Note updated to ISO 16106:2020
Scope	Chapter 6.7	Note added expanding application of Chapter to include portable tanks with shells made of fibre-reinforced plastics
Capacity of relief devices for portable tanks for non-refrigerated liquified gases	6.7.3.8.1.1	New Note added regarding the application of the specified formula (relocated from footnote)
Fibre reinforced plastics portable tanks	Chapter 6.9	New Chapter incorporated, specifying the requirements for the design, construction, inspection, and testing of portable tanks with shells made of fibre reinforced plastics (FRP) materials

Updates from the Code edition 7.7 to edition 7.8

Area	Subsection	Explanation of Change
Design, construction, testing and approval of tank vehicles	Chapter 6.9	Chapter relocated and renumbered to Chapter 6.10 to allow for new Chapter 6.9 covering fibre-reinforced plastics portable tanks
Freight Containers	Chapter 6.10	Chapter relocated and renumbered to Chapter 6.12 to allow for new Chapter 6.9 covering fibre-reinforced plastics portable tanks

PART 8 – STOWAGE AND RESTRAINT ON OR IN CARGO TRANSPORT UNITS

Area	Subsection	Explanation of Change
Use of gates	8.1.3.2	Amended to allow the use of a Certified Load Restraint Curtain System as an alternative to gates

PART 11 – DOCUMENTATION

Area	Subsection	Explanation of Change
Information that supplements the proper shipping name	11.1.1.4.2.3	<ul style="list-style-type: none">new subclause (d) added for 'molten substances'subclause (d) renumbered to (e)new subclause (f) added for 'stabilised and temperature controlled substances'
Salvage packagings	11.1.1.5.3	Amended to distinguish requirements when transporting salvage packagings as per 4.1.1.18 and when transporting salvage pressure receptacles as per 4.1.1.19
Stabilised (temperature controlled)	11.1.1.5.5	Amended to remove the requirement to include 'STABILISED' on the transport document and replaced with 'TEMPERATURE CONTROLLED'
Special provisions	11.1.1.5.12	Amended to include requirements for additional information when required by a special provision
Emergency information	11.2.1	Definition updated to remove HB:76 and replace with the ANZ-ERG.
Emergency Procedure Guide	11.2.1	Definition updated to include the use of individual guides from the ANZ-ERG

PART 12 – SAFETY EQUIPMENT OR ROAD VEHICLES

Area	Subsection	Explanation of Change
Respiratory PPE	Table 12.2	Table Note [b] updated to distinguish between selection of respirator compliant to AS1716 and maintaining as per AS1715

Appendices

Area	Subsection	Explanation of Change
Appendix C HAZCHEM CODES		
Text	Appendix C	Entire appendix updated and rearranged to align with Dangerous Goods Emergency Action Code List 2021 (source document)
Hazchem Pocket Card	Figure B3	Figure relocated from Appendix B to Appendix C
Hazchem Codes	Appendix C	Hazchem Codes have been updated as per latest list from the UK's National Chemical Emergency Centre An overview of the NCEC changes can be found towards the bottom of the following webpage https://the-ncec.com/en/news-en/the-dangerous-goods-emergency-action-code-list-2021-is-now-available