

Australian Code for the Transport of Dangerous Goods by Road & Rail: differences between edition 7.6 and edition 7.7

Edition 7.7 of the *Australian Code for the Transport of Dangerous Goods by Road & Rail* (the Code) includes UN and Australian based changes.

Below is a summary of the important changes from edition 7.6 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
Websites	Throughout	Update of website addresses, where required
Names	Throughout	Update of Department and company names and addresses, where required
Outdated references	Throughout	removal of outdated references and updating of MSI clause numbers where required
Clause numbers	Throughout	Some renumbering of clauses for correction of number sequencing
Cross referencing	Throughout	Cross references updated
References to Regulations / Code	Throughout	Referencing corrected to correctly show if reference is the model subordinate instrument (regulations) or the Code
Minor typographical or editorial corrections	Throughout	Includes typographical, editorial and translation errors that have occurred over past revisions of the Code and from the UN 20 Corrigendum

LIMITED QUANTITIES – SIMPLIFICATION

Area	Subsection	Explanation of Change
Limited Quantities	3.4	<p>The provisions for dangerous goods packed in limited quantities has been simplified and is not substantially consistent with overseas practices. Key changes include:</p> <ul style="list-style-type: none"> • Transport document no longer required • Any documentation for the load to include the words ‘contains dangerous goods packed in limited quantities’ • Consignor to advise prime contractor, in a form that is readily accessible during transport, of the gross mass of LQ being consigned or, if the LQ includes more than 2000 kg/L of any single UN number, the UN number, proper shipping name and aggregate quantity of for the relevant UN number • Placard threshold 8t gross mass or, if the LQ includes more than 2000 kg/L of any single UN number • New placarding rules apply where the load includes both LQ and fully regulated DG
Mixed Packet (Lower Risk) Dangerous Goods		Removed
Personal Care Products		Removed
Concessional Limited Quantities		Removed

REQUIREMENTS FOR INNER PACKAGINGS

Area	Subsection	Explanation of Change
Additional requirements for inner packagings filled in Australia	6.1.4.21	The additional requirements for inner packagings filled in Australia have been removed. Note: All inner packagings, regardless of place of filling are required to meet UN performance testing and specifications and must be manufactured under a quality assurance program
Inner packaging markings	6.1.3.13	This clause was Australian specific and has been deleted as a consequence of the removal inner package testing requirements

TRANSPORT OF EMPTY PACKAGINGS

Area	Subsection	Explanation of Change
Transport of nominally empty packagings	7.2.6	This section has been deleted in its entirety as all packagings, receptacle, etc. that have contained dangerous goods and that are not 'free from dangerous goods' must be treated as still containing dangerous goods. The relevant clauses in the Code are shown below.
All packagings	4.1.1.11	4.1.1.11 Empty packagings, including IBCs and large packagings, that have contained a dangerous substance, must be treated in the same manner as is required by this Code for a filled packaging, unless adequate measures have been taken to nullify any hazard.
Empty portable tanks	4.2.1.5 4.2.2.6 4.2.3.5	Empty portable tanks not cleaned and not gas-free must comply with the same requirements as portable tanks filled with the previous substance or non-refrigerated gas.
Empty MEGCs	4.2.4.7	Empty MEGCs that have not been cleaned and purged must comply with the same requirements as MEGCs filled with the previous substance.
Empty bulk containers	4.3.1.12	Empty bulk containers that have contained a dangerous substance must be treated in the same manner as is required by this Code for a filled bulk container, unless adequate measures have been taken to nullify any hazard.
Marking and labelling	5.1.3.1	Other than for Class 7, a packaging which previously contained dangerous goods must be identified, marked and labelled as required for those dangerous goods unless freed from dangerous goods.
Placarding	5.3.1.1.4	Placards must be displayed on: (a) all placardable units containing dangerous goods or the residue of dangerous goods, in accordance with Section 5.3.3; and

Area	Subsection	Explanation of Change
		<p>(b) portable tanks and bulk containers containing dangerous goods or the residue of dangerous goods, in accordance with Section 5.3.4; and</p> <p>(c) freight containers containing a placard load of dangerous goods for transport, in accordance with Section 5.3.5; and</p> <p>(d) road vehicles transporting a placard load of dangerous goods, in accordance with Section 5.3.6; and</p> <p>(e) rail wagons transporting a placard load of dangerous goods, in accordance with Section 5.3.7.</p>
Transport documentation	11.1.1.4.3(b)	<p>Empty uncleaned packagings, bulk containers and tanks: Empty means of containment (including packagings, IBCs, bulk containers, portable tanks, tank-vehicles and tank-wagons) which contain the residue of dangerous goods of classes other than Class 7 must be described as such by, for example, placing the words “EMPTY UNCLEANED” or “RESIDUE LAST CONTAINED” before or after the dangerous goods description specified in 11.1.1.4.1 (a) to (e);</p>
Empty, as yet unused, prelabelled packagings		
Pre-labelled packagings, IBCs and cylinders	7.2.5	<p>This section has been deleted and a new clause (5.1.3.3) inserted in Part 5 which covers marking and labelling requirements.</p>
Marking and labelling	5.1.3.3	<p>New clause (relocated from 7.2.5) Unused pre-labelled dangerous goods packagings should be clearly identified as such on any transport documentation, any outer packaging or the exterior of the cargo transport unit in order to avoid inappropriate emergency response.</p>
Identification	11.1.1.4.3(b)	<p>Reminder that empty, as yet unused dangerous goods prelabelled packagings should be clearly identified as such on documentation, outer packaging or vehicle to avoid inappropriate emergency response</p>

PART 1 – GENERAL PROVISIONS, DEFINITIONS AND INTERPRETATION

Area	Subsection	Explanation of Change
Definitions		
a) Cargo Transport Unit	1.2.1.2.3	Relocated and renumbered for correct alphabetical location
b) Renumbering of definitions	1.2.1.2.*	Definitions reordered for correct alphabetical flow, resulting in renumbering of several definitions
c) Packaging	1.2.1.2.11	Note to definitions deleted as it was incorrect. The UN definition of 'packaging' is very broad

PART 2 – CLASSIFICATION

Area	Subsection	Explanation of Change
Classification of articles containing dangerous goods N.O.S.		
a) UN corrections to new section introduced in UN 20 (ADG 7.6)	2.0.5	The words 'transport' and 'transported' replaced with 'classification' and 'classified'
b) Application of section	2.0.5.4	Added clarification that section applies to articles containing explosives which are excluded from Class 1 in accordance with 2.1.3.6.4.
c) Subsidiary hazards	2.0.5.6	Corrections to wording by UN for better clarity
Assignment of fireworks to hazard divisions	2.1.3.5.2	Assignment of fireworks able to be made on the basis of analogy extended to UN 0431, specification 1.4G, used for theatrical effects
Exclusion from Class 1	2.1.3.6.4	Reference to ISO Standard for one method of conducting a 'fire test'
Classification documentation	2.1.3.7	Clause added in UN 20 but not included in Ed 7.6 of the Code. Clause has now been added, noting that as it relates to explosives, it is only mandatory in jurisdictions that choose to call it up in their relevant explosives regulations
Class 2 Gases - Divisions	2.2.2.1	The UN Note referring to special provisions applicable to UN nos. 1950, 3500 to 3505 and 2037 has been added. This Note has been in the UN Model Regulations since UN 12 but was never carried into the ADG Code
Classification of infectious substances	2.6.3.2 and sub-clauses	New UN Number (UN 3549) added for medical waste
Medical or clinical wastes	2.6.3.5.1	New UN Number (UN 3549) added for medical waste

Area	Subsection	Explanation of Change
Packing group assignment for substances and mixtures of Class 8 Corrosives	2.8.3.2	Further clarification added on assigning packing groups
Availability of test certificates for lithium batteries	2.9.4 Note	Sub (g) added to Note, requiring manufacturers and subsequent distributors to make test summaries available. Note: this could be achieved by having the certificates available on the manufacturer's website.

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

Area	Subsection	Explanation of Change
Name of Part	All	Part name amended to 'DANGEROUS GOODS LISTS, SPECIAL PROVISIONS AND EXCEPTIONS'.
Dangerous goods list		
a) Column headings	3.2.1 Table 3.2.3	Columns 9 and 10 respaced to correct placement and appearance of wording for column headings
b) New entries	Table 3.2.3 3.2.4	The following new entries are included <ul style="list-style-type: none"> UN 0511 – UN 0513 DETONATORS, ELECTRONIC programmable for blasting UN 3549 – MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid
c) Deleted entries	Table 3.2.3 3.2.4	UN Nos. 1014, 1015, 1366, 1370, 1979, 1980, 1981, 2005, 2445, 2600, 2662, 3051, 3052, 3053, 3076, 3433, 3461 These UN numbers were discontinued by the UN several years ago.
d) Corrections	Table 3.2.3 3.2.4	The following typographical errors have been corrected: <ul style="list-style-type: none"> UN 2522 – 'STABILISED' has been added to the Proper Shipping Name UN 3291 – packing group has been deleted UN 3302 – 'STABILISED' has been added to the Proper Shipping Name UN 3363 – The proper shipping name has been amended to include "DANGEROUS GOODS IN ARTICLES" UN 3536 – The special provision has been corrected from SP 386 to SP 389

Area	Subsection	Explanation of Change
		<ul style="list-style-type: none"> • UN 3543 – the words ‘EMITS FLAMMABLE GASES’ have been relocated to the end of the Proper Shipping Name
e) Special provisions	Table 3.2.3 (column 6)	<p>The following special provisions have been added:</p> <ul style="list-style-type: none"> • UN 0340 – SP 393 • UN 0341 – SP 393 • UN 0342 – SP 393 • UN 0343 – SP 393 • UN 1002 – SP 392 • UN 1006 – SP 392 • UN 1013 – SP 392 • UN 1046 – SP 392 • UN 1056 – SP 392 • UN 1058 – SP 392 • UN 1065 – SP 392 • UN 1066 – SP 392 • UN 1080 – SP 392 • UN 1372 – SP 123 • UN 1387 – SP 123 • UN 1856 – SP 123 • UN 1857 – SP 123 • UN 1952 – SP 392 • UN 1956 – SP 392 • UN 2036 – SP 392 • UN 2037 – SP 327 • UN 2522 – SP 386 • UN 2555 – SP 394 • UN 2556 – SP 395 • UN 2557 – SP 394 • UN 3070 – SP 392 • UN 3091 – SP 390 • UN 3163 – SP 392 • UN 3297 – SP 392 • UN 3298 – SP 392 • UN 3299 – SP 392 • UN 3360 – SP 123 • UN 3380 – SP 394 • UN 3480 – SP 390 • UN 3529 – SP 356 <p>The following special provisions have been removed:</p> <ul style="list-style-type: none"> • UN 1372 – SP 117 • UN 1387 – SP 117 • UN 1856 – SP 117 • UN 1857 – SP 117 • UN 2383 – SP 386 • UN 3101 to UN 3120 – SP 323 • UN 3360 – SP 117
f) Packagings & IBCs	Table 3.2.3 (columns 8 and 9)	<p>Packing and special packing provisions are amended as follows:</p> <ul style="list-style-type: none"> • LP101 has been added to the following UN numbers: UN 0014, UN 0033, UN 0037, UN 0136,

Area	Subsection	Explanation of Change
		<p>UN 0167, UN 0180, UN 0240, UN 0242, UN 0279, UN 0291, UN 0294, UN 0295, UN 0324, UN 0326, UN 0327, UN 0330, UN 0338, UN 0339, UN 0348, UN 0369, UN 0371, UN 0413, UN 0414, UN 0417, UN 0426, UN 0427, UN 0453, UN 0457, UN 0458, UN 0459, UN 0460,</p> <ul style="list-style-type: none"> • UN 2037 – LP101 and SPP96 added • UN 3090 – P911, LP905, LP906 added • UN 3091 – P911, LP905, LP906 added • UN 3164 – SPP32 added • UN 3480 – P911, LP905, LP906 added • UN 3481 – P911, LP905, LP906 added • UN 3500 – SPP97 added
g) Portable tanks and bulk containers	Table 3.2.3 (columns 10 and 11)	<p>Instructions and special provisions are amended as follows:</p> <ul style="list-style-type: none"> • TP35 has been deleted from the following UN numbers: UN 1092, UN 1098, UN 1143, UN 1163, UN 1238, UN 1239, UN 1244, UN 1594, UN 1695, UN 1752, UN 1809, UN 2334, UN 2337, UN 2646, UN 3023 • TP 37 has been deleted from the following UN numbers: UN 1810, UN 1135, UN 1182, UN 1251, UN 1540, UN 1580, UN 1605, UN 1670, UN 1834, UN 1838, UN 1892, UN 2232, UN 2382, UN 2474, UN 2477, UN 2481, UN 2482, UN 2483, UN 2484, UN 2485, UN 2486, UN 2487, UN 2488, UN 2521, UN 2605, UN 2606, UN 2644, UN 2668, UN 3079, UN 3246 • UN 2382 – TP39 deleted • UN 3148 – TP38 deleted
Special Provisions, 3.3.2		
a) Lithium batteries	188	Amended as per UN 20 corrigendum and to delete obsolete Note 1 to (f)
b) Ammonium nitrate based compound fertilizers	193	Wording re DG only for air or sea amended for consistency with other similar special provisions
c) Batteries or cells containing sodium, sulphur or sodium compounds	293	Last sentence deleted as per UN 21 amendments
d) N.O.S. proper shipping names	274	New requirements relating to UN 3077 and UN 3082 added as per UN 21 amendments
e) Articles containing dangerous goods	301	Amended to include the collective term ‘articles’ to capture items such as machinery, apparatus and devices
f) Waste aerosols and waste gas cartridges	327	Extended to include waste gas cartridges of UN 2037. The wording has also been amended to clarify the requirement to comply with 11.1.1.4.3(c) (transport documentation)
g) Metal hydride storage systems	356	Extended to include metal hydride storage systems installed in machinery or engines

Area	Subsection	Explanation of Change
h) Vehicles powered by lithium batteries	360	Updated to include assignment of UN number for lithium batteries installed in cargo transport units
i) Engines or machinery powered by internal combustion engines or fuel cells	363	Placarding requirements reworded for clarity and alignment to UN
j) Ammonium nitrate	370	Clarification of when UN number may be used
k) Lithium cells and batteries	376	Guidance added for assessing cells or batteries as damaged or defective
l) Lithium batteries	388	Clarification added on assigning UN number for lithium batteries installed in a cargo transport unit
m) Lithium batteries	390	New SP for packages containing both batteries contained in equipment and batteries packed with equipment
n) Nitrocellulose	393 and 394	Two new SP relating to test criteria for nitrocellulose
o) Solid medical waste	395	New SP for solid medical waste of Category A transported for disposal
p) Automotive batteries	AU08	SP amended to allow the acid volume, or where this is not known, a nominal figure of 25% of the gross weight of the battery, to be used when calculating the aggregate quantity

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

Area	Subsection	Explanation of Change
Application of section	4.1.1 Note	Reworded for clarification of application to Class 2 and Division 6.2
Multiple design types	4.1.1.3.1	New clause allowing packagings to conform to multiple design types and bear multiple marks
Packing instructions – new or amended		
a) Outer packagings	P003	Deletion of (b) from PP16 (UN 2800), PP32 amended to include UN 3164, New PP96 (UN 2037)
b) Packagings for dry solids	P114(b)	Two new SPP introduced relating to use of drums
c) Pressure receptacles	P200	Minor rewording and corrections
d) Compressed gases	P200 Table 4.1.4.1A	Entries for obsolete UN numbers deleted LC50 added for UN numbers 1859, 2188, 2202, 2676

Area	Subsection	Explanation of Change
e) Fire extinguishing agents	P206	New SPP added for UN 3500
f) Closures for inner packagings	P400	Amended to allow alternative to threaded closures for inner packagings
g) Closures for inner packagings	P404	Amended to allow alternative to threaded closures for inner packagings
h) Waste of UN 3549 transported for disposal	P622	New packing instruction
i) Batteries	P801	Amended as per UN 21
j) Lithium batteries	P903	Added instruction for packaging containing both batteries contained in equipment and batteries packed with equipment
k) PCB's	P906	UN number 3432 added
l) Machinery, apparatus or devices	P907	Minor changes to terminology used
m) Organic peroxides and self-reactive substances of type F	IBC520	New formulations inserted.
n) Gas cartridges	LP200	Amended to include UN 2037
o) Medical and clinical waste	LP621	Requirement to comply with special provisions of 4.1.8 deleted
p) Waste of UN 3549 transported for disposal	LP622	New packing instruction
q) Damaged or defective batteries	LP906	Guidance added on criteria to be considered when assessing performance of packaging
r) Portable tanks for gases	T50	Table updated
s) Portable tanks special provision	TP19	Clause reworded for clarity
t) Redundant special provision	TP37	Deleted
Holding time for portable tanks for refrigerated liquefied gases	4.2.3.7.3	New clause requiring date at which holding time ends to be entered on the transport document

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

Area	Subsection	Explanation of Change
Non applicable Notes	5.1.1.2	Notes deleted
Marking and Labelling		
a) Size of markings	5.2.1.1	Minor amendment to wording for clarity of package sizing
b) Orientation arrows	5.2.1.7.1	Extension of application to include machinery or apparatus containing liquid DG
c) Lithium battery mark	5.2.1.9.2 and Figure 5.2.5	Amendments to specification to allow use of rectangular or square mark
d) Articles	5.2.2.1.13.1	Minor wording changes as per UN 20 corrigendum
e) Label specifications	5.2.2.2.1.1.2	Removal of 2mm with specification for line inside edge
f) Specimen labels	5.2.2.2.2	Table updated as per UN 20 corrigendum and specimen labels replaced with Australian specimen labels
Placarding and Marking of Cargo Transport Units, Placardable Units and Bulk Containers		
a) Chapter heading		Heading updated to include 'Placardable Units'
b) Introductory Note and throughout, as relevant	Introductory Notes 5.3.1.1.1 5.3.1.4.1	Notes updated to include 'bulk containers'
c) Placarding thresholds	Table 5.3	Placarding table updated to include new thresholds applicable to Limited Quantities
d) Placarding intermodal loads	5.3.8.1	Scope expanded to include tanks or containers that are imported into Australia, emptied and then returned while still containing residues
e) Vehicle placarding illustrations	Figure 5.3.6	Figures and accompanying descriptions re aligned for accuracy
Special provisions relating to substances used for cooling or conditioning		
a) Scope	5.5.3	Heading amended to include Nitrogen
b) Warning mark for cargo transport units	5.5.3.6.2	Minor amendments to wording
Dangerous goods in use or intended to be used during transport	5.5.4	New UN requirements

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
Marking for month of manufacture on packaging types 1H and 3H	6.1.3.1	Indication of the year of manufacture no longer mandatory when clock is placed adjacent to the UN design type mark
Marking for packagings conforming to more than one tested packaging design type	6.1.3.13	New clause (as per UN) allowing for marking of packages with more than one UN packaging design type mark
Internal protective coatings and materials required when construction materials of receptacles are not compatible with contents	6.1.4.2.6	New requirements relating to incompatibility of materials used and contents Subsequent renumbering of clauses 6.1.4.2.6 and 6.1.4.2.7 to 6.1.4.2.7 and 6.1.4.2.8 respectively
	6.1.4.2.7	
	6.1.4.2.8	
	6.1.4.3.6	Subsequent renumbering of clauses 6.1.4.3.6 and 6.1.4.3.7 to 6.1.4.3.7 and 6.1.4.3.8 respectively
6.1.4.3.7		
6.1.4.3.8		
Examining pressure receptacles intended for transport of acetylene	6.2.1.6.2	Reworded for clarity on periodic inspection and test requirements applicable to receptacles intended for the transport of UN1001 and UN 3374

Referenced Standards for UN pressure receptacles

a) Pressure receptacles	6.2.2.1.1	Updated - ISO 11119 Refillable composite gas cylinders and tubes – Design, construction - Specification and test methods - and testing Part 2: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing metal liners. Publication date amended to 2012 Part 3: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with non-load-sharing metallic or non-metallic liners. Publication date amended to 2013 Part 4: Fully wrapped fibre reinforced composite gas cylinders up to 150 l with load-sharing welded metallic liners. New
b) UN tubes	6.2.2.1.2	ISO 11119-3:2013 – clarification that Standard is not to be used for linerless tubes manufactures two parts joined together
c) UN acetylene cylinders	6.2.2.1.3	Two new Standards referenced
d) Materials	6.2.2.2	Reference to ISO 11114, part 1 updated to include amendment 1-2017
e) Service equipment	6.2.2.3	ISO 10297:2014 – may be used until 31 December 2022

Area	Subsection	Explanation of Change
		New - ISO 10297:2014 + Amd 1:2017 – may be used until further notice
f) Periodic inspection and test	6.2.2.4	Deleted - ISO 10462:2005 – unavailable for use since 31 December 2018 New - ISO 20475:2018 - Gas cylinders – Cylinder bundles – Periodic inspection and testing – may be used until further notice
Salvage pressure receptacles	6.2.3.5	New Note added specifying dates of application of provisions
Scope of Chapter 6.3	All	Clarification that Chapter applies to UN numbers 2814 and 2900
Marking of IBCs conforming to more than one tested UN design type	6.5.2.1.3	New clause (as per UN) allowing for marking of packages with more than one UN packaging design type mark
Marking of maximum permitted stacking loads for IBC's	Table 6.5.2.2.1, 6.5.2.2.2	Minor amendments as per UN 21
Placement of marking on inner receptacles of composite IBCs	6.5.2.2.4	Clarification on visibility of markings when assembled in the outer casing
Minimum wall thickness of metal IBCs	6.5.5.1.6	Table of specified thicknesses for different IBC Codes added
Marking of large packagings conforming to more than one tested UN design type	6.6.3.4	New clause (as per UN) allowing for marking of packages with more than one UN packaging design type mark
Portable tanks passed their periodic inspection and test date	6.7.2.19.6.1 6.7.3.15.6.1 6.7.4.14.6.1	New requirement prohibiting portable tanks that have missed their scheduled inspection to be filled or transported unless a new 5 year inspection and test is performed
Portable tank minimum shell thickness	6.7.3.4.1	New requirement to take into consideration relevant special provisions in Column 11 of the Dangerous Goods List
Construction materials for elements of an MEGC	6.7.5.2.3	Clause expanded to include composite construction

PART 11 – DOCUMENTATION

Area	Subsection	Explanation of Change
Transport documentation	11.1	Chapter has been restructured and several clauses renumbered to provide a better flow of

		information and to align with Chapter 5.4 (Documentation) of UN21.

PART 12 – SAFETY EQUIPMENT OR ROAD VEHICLES

Area	Subsection	Explanation of Change
Fire extinguisher requirements	Table 12.1	Two new Notes added to allow for the (conditional) use of portable fire extinguishers other than dry-powder or the use of onboard suppression systems in place of portable extinguishers.
Respiratory PPE	Table 12.2	A performance standard for respiratory PPE has been introduced, requiring certification of compliance to AS/NZS 1716.

Appendices

Area	Subsection	Explanation of Change
Hazchem Codes	Appendix C	Hazchem Codes have been updated as per latest list from the UK's National Chemical Emergency Centre