

## Australian Code for the Transport of Dangerous Goods by Road & Rail: overview of changes between Code editions 7.8 and 7.9

Edition 7.9 of the *Australian Code for the Transport of Dangerous Goods by Road & Rail* (the Code) incorporates UN based changes.

Below is a summary of the important changes from edition 7.8 of the Code. Refer to the actual section of the Code to understand the change.

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, the wording in the Code takes precedence.

### PART 1 – GENERAL PROVISIONS, DEFINITIONS AND INTERPRETATION

Area	Subsection	Explanation of Change
<b>Definitions - specific</b>		
a) Recycled plastics material	1.2.1	The definition of 'Recycled plastics material' has been amended to include IBCs.
b) Degree of filling	1.2.1	New definition of 'Degree of filling' was added to read as follows: Degree of filling means the ratio, expressed in %, of the volume of liquid or solid introduced at 15 °C into the means of containment and the volume of the means of containment ready for use.
<b>Units of measurement</b>	1.2.2.1	In addition to the editorial changes, the signs of the s <sup>3</sup> and A <sup>2</sup> were amended to s <sup>-3</sup> and A <sup>-2</sup> .

### PART 2 – CLASSIFICATION

Area	Subsection	Explanation of Change
<b>Classification of articles as articles containing dangerous goods N.O.S</b>	2.0.5.2	Section amended to lithium cells, including other editorial changes to accommodate lithium batteries.
<b>Definitions</b>	2.1.1.3	The definition of 'pyrotechnic substance' has received editorial changes to specify that specified that a 'substance or a mixture of substances' is an explosive substance.  A new definition for 'explosive or pyrotechnic effect' has been added, noting that in the context of 2.1.1.1 (c), it is referring to an effect produced by self-sustaining exothermic chemical reactions including shock, blast, fragmentation, projection, heat, light, sound, gas and smoke.

## Overview of changes between Code editions 7.8 and 7.9

Area	Subsection	Explanation of Change
Liquid desensitised explosives	2.3.1.4	Section amended to include UN number 3555.
Definitions and properties	2.4.2.2.1	Added a new entry for metal powders. <ul style="list-style-type: none"> <li>• Metal powders are powders of metals or metal alloys.</li> </ul>
Definitions and properties	2.4.2.2.2.1 2.4.2.2.h3.1	An editorial change has been made. <ul style="list-style-type: none"> <li>• Replaced 'powders of metals or metal-alloys' with metal powders.</li> </ul>
Division 4.1 Self-reactive substances	2.4.2.3.2.3	Editorial changes were made.
Assigned organic peroxides in packages	2.5.3.2.4	Editorial changes were made.  Three new entries added to table 'Assigned organic peroxides in packagings': <ul style="list-style-type: none"> <li>• DIBENZOYL PEROXIDE</li> <li>• 2, 5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY) HEXANE</li> <li>• METHYL ETHYL KETONE PEROXIDE(S)</li> </ul>
Classification of infectious substances	2.6.3.2.2.1	The entry for Monkeypox virus was edited to specify "cultures only".
Assignment to Class 9	2.9.2	New section was added for Sodium ion batteries.  New entries were added. <ul style="list-style-type: none"> <li>• 3556 VEHICLE, LITHIUM ION BATTERY POWERED</li> <li>• 3557 VEHICLE, LITHIUM METAL BATTERY POWERED</li> <li>• 3558 VEHICLE, SODIUM ION BATTERY POWERED</li> </ul>
Sodium ion batteries – new section	2.9.5	New section was added for Sodium ion batteries.

## PART 3 – DANGEROUS GOODS LISTS AND SPECIAL PROVISIONS

Area	Subsection	Explanation of Change
Proper shipping name	3.1.2.2	Editorial changes were made.
Structure of the Dangerous Goods list	3.2.1	Editorial changes were made.
<b>Dangerous Goods list</b>		
a) Amended Name and Description	Table 3.2.3 (Column 2)	Amendments have been made to: <ul style="list-style-type: none"> <li>• UN 1010 – replaced "40%" by "20%";</li> </ul>

## Overview of changes between Code editions 7.8 and 7.9

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		<ul style="list-style-type: none"> <li>• UN 1835 PG II – replaced ‘solution’ by “aqueous solution with more than 2.5% but less than 25% tetramethylammonium hydroxide”;</li> <li>• UN 1835 PG III – replaced “solution” by “aqueous solution with not more than 2.5% tetramethylammonium hydroxide”;</li> <li>• UN 3292 – replaced “SODIUM” by “METALLIC SODIUM OR SODIUM ALLOY” twice.</li> </ul>
b) Amended Class or Division	Table 3.2.3 (Column 3)	Amendments have been made to: <ul style="list-style-type: none"> <li>• UN 3423 – replaced 8 with 6.1</li> </ul>
c) Addition to Subsidiary Hazard	Table 3.2.3 (Column 4)	Additions have been made to: <ul style="list-style-type: none"> <li>• UN 1835 PG II – 6.1 added;</li> <li>• UN 3423 – 8 added.</li> </ul>
d) Amended UN Packing Group	Table 3.2.3 (Column 5)	Amendments have been made to: <ul style="list-style-type: none"> <li>• UN 2028 – deleted “II”;</li> <li>• UN 2807 – deleted “III” and for the second entry, deleted “I”;</li> <li>• UN 3165 – deleted “I”;</li> <li>• UN 3423 – replaced II by I.</li> </ul>
e) Addition to Special provision	Table 3.2.3 (Column 6)	Special provision 399 has been added to the following UN numbers: <ul style="list-style-type: none"> <li>• UN 0030, 0255, 0456, 0511, 0512 and 0513</li> </ul> Special provision 406 has been added to the following UN numbers: <ul style="list-style-type: none"> <li>• UN 1006, 1013, 1046 and 1066</li> </ul> Special provision 28 has been added to the following UN numbers: <ul style="list-style-type: none"> <li>• UN 1204, 2059, 2555, 2556, 2907, 3064, 3319, 3343, 3344 and 3357</li> </ul> Special provision 310 has been added to the following UN numbers: <ul style="list-style-type: none"> <li>• UN 3537, 3538, 3540, 3541, 3546, 3547 and 3548.</li> </ul> Additions have been made to: <ul style="list-style-type: none"> <li>• UN 1010 – 402</li> <li>• UN 3270 – SP 403</li> <li>• UN 3423 – SP 279, 409</li> <li>• UN 1835 PG II – added 279, 408, 409</li> <li>• UN 1835 PG III – 408, 409</li> <li>• UN 2795 – 401</li> <li>• UN 2803 – 365</li> <li>• UN 3270 – 403</li> <li>• UN 3292 – 401</li> </ul>

## Overview of changes between Code editions 7.8 and 7.9

Area	Subsection	Explanation of Change
f) Amended Limited and excepted quantities	Table 3.2.3 (Column 7a)	Amendments have been made to: <ul style="list-style-type: none"> <li>UN 3423 – replaced 1kg to 0</li> </ul>
g) Addition to Portable Tank and Bulk containers/instructions	Table 3.2.3 (Column 10)	<ul style="list-style-type: none"> <li>UN 1390 – added T13</li> <li>UN 3482 – added T13</li> <li>UN 3423 – replaced “T3” by “T6”</li> </ul>
h) Addition to Portable tank and bulk containers/special provisions	Table 3.2.3 (Column 11)	<p>Additions have been made to:</p> <ul style="list-style-type: none"> <li>UN 1391 – TP2, TP7, TP42</li> <li>UN 3482 – TP2, TP7, TP42</li> </ul> <p>Amendments have been made to:</p> <ul style="list-style-type: none"> <li>UN 0331 – TP1 deleted</li> </ul>
i) New entries	Table 3.2.3	<p>The following new entries are included:</p> <ul style="list-style-type: none"> <li>UN 0514 – FIRE SUPPRESSANT DISPERSING DEVICES</li> <li>UN 1835 TETRAMETHYLAMMONIUM HYDROXIDE AQUEOUS SOLUTION with not less than 25% tetramethylammonium hydroxide</li> <li>UN 3551 SODIUM ION BATTERIES with organic electrolyte</li> <li>UN 3552 SODIUM ION BATTERIES CONTAINED IN EQUIPMENT or SODIUM ION BATTERIES PACKED WITH EQUIPMENT, with organic electrolyte</li> <li>UN 3553 DISILANE</li> <li>UN 3554 GALLIUM CONTAINED IN MANUFACTURED ARTICLES</li> <li>UN 3555 TRIFLUOROMETHYLTETRAZOLE-SODIUM SALT IN ACETONE, with not less than 68 % acetone, by mass</li> <li>UN 3556 – VEHICLE, LITHIUM ION BATTERY POWERED</li> <li>UN 3557 VEHICLE, LITHIUM METAL BATTERY POWERED</li> <li>UN 3558 VEHICLE, SODIUM ION BATTERY POWERED</li> <li>UN 3559 FIRE SUPPRESSANT DISPERSING DEVICES</li> <li>UN 3560 TETRAMETHYLAMMONIUM HYDROXIDE AQUEOUS SOLUTION with not less than 25 % tetramethylammonium hydroxide</li> </ul>
<b>Special Provisions 3.3.2</b>		
a) Amended	28	Additional sentence added specifying that in cases when the diluent is not stated, the substance shall be packed so that the amount of explosive substance does not exceed the stated value.

## Overview of changes between Code editions 7.8 and 7.9

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b) Lithium batteries	188	Editorial change was made.
c)	204	Editorial change was made.
d) Addition of sodium ion cells and batteries	230	Amended to include Sodium ion cells and batteries
e) Addition of Ammonium nitrate	252	Amended to include information on Ammonium nitrate in paragraphs (1) and (2).
f) Addition of fire suppressant dispersing devices	280	Modified to include fire suppressant dispersing devices (UN numbers 0514 and 3559).
g) Addition of sodium ion batteries	296	Paragraph (d) amended to include sodium ion batteries.
h) Amended	310	Amended to include information on cells and batteries from production runs of not more than 100 cells or batteries.
i) Amended	328	Editorial change was made to include sodium ion batteries.
j) Amended	348	Editorial change was made to include lithium batteries and sodium ion batteries with specific manufacture dates.
k) Addition of lithium and sodium ion batteries	360	The reference to the UN number 3171 has been replaced by UN 3556, UN 3557 or UN 3558, as applicable.
l) Amended	363	Amended to include exceptions for lithium batteries.
m) Addition of gallium and a UN Number	365	Editorial change was made to add gallium and include UN No. 3554.
n) Addition of gallium	366	Editorial change was made to include gallium.
o) Amended	371	Replaced “16.6.1.3.1 to 16.6.1.3.6” by “16.6.1.3.1 to 16.6.1.3.1.4, 16.6.1.3.6”.
p) Addition of lithium ion, metal and sodium ion cells or batteries	376	Editorial change was made to include additional UN numbers.
q) Addition of sodium and lithium related cells and batteries	377	Editorial changes were made to include sodium ion, non-sodium ion batteries and new package markings.

## Overview of changes between Code editions 7.8 and 7.9

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r) Amended	379	Replaced “ISO 11114-1:2012 + A1:2017” by “ISO 11114-1:2020”.
s) Deleted Note	384	Deleted the Note.
t) Addition of sodium and other batteries	388	Amended to specify that entry UN 3171 only applies to vehicles and equipment powered by wet batteries, metallic sodium batteries or sodium alloy batteries, with these batteries installed. Addition of a new paragraph to include the new UN numbers.
u) Amended	396	Editorial change was made.
v) New entries	399 to 409	New entries added.
<b>3.5.4.3</b>	Use of overpacks	The Note has been deleted.

### Alphabetical index

a) New entries		<ul style="list-style-type: none"> <li>• Batteries, sodium nickel chloride, see</li> <li>• Butylenes mixture, see</li> <li>• DISILANE</li> <li>• FIRE SUPPRESSANT DISPERSING DEVICES</li> <li>• GALLIUM CONTAINED IN MANUFACTURED ARTICLES</li> <li>• TRIFLUOROMETHYLTETRAZOLE-SODIUM SALT IN ACETONE, with not less than 68 % acetone, by mass</li> <li>• SODIUM ION BATTERIES with organic electrolyte</li> <li>• SODIUM ION BATTERIES CONTAINED IN EQUIPMENT, with organic electrolyte</li> <li>• SODIUM ION BATTERIES PACKED WITH EQUIPMENT, with organic electrolyte</li> <li>• VEHICLE, LITHIUM ION BATTERY POWERED</li> <li>• VEHICLE, LITHIUM METAL BATTERY POWERED</li> <li>• VEHICLE, SODIUM ION BATTERY POWERED</li> </ul>
b) Amendments		<p>Amendments were made to the following:</p> <ul style="list-style-type: none"> <li>• For “BATTERIES, CONTAINING SODIUM”, in the column for “Name and description”, replace “SODIUM” by “METALLIC SODIUM OR SODIUM ALLOY”.</li> <li>• For “BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, containing more than 40 % butadienes”, replaced “40 %” by “20 %”.</li> <li>• For “CELLS, CONTAINING SODIUM”, in the column for “Name and description”, replaced “SODIUM” by “METALLIC SODIUM OR SODIUM ALLOY”.</li> </ul>

## Overview of changes between Code editions 7.8 and 7.9

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		<ul style="list-style-type: none"> <li>Amended the entry for TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION”</li> <li>For “TETRAMETHYLAMMONIUM HYDROXIDE, SOLID”, in the second column, replaced “8” by “6.1”.</li> </ul>

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

Area	Subsection	Explanation of Change
<b>Packing instructions</b>		
a) Restructuring	P001, P002, P410, P501, P502, P504	Packing instructions have been amended to show ‘composite packagings’ as a category of ‘single packagings’.
b) Amended	P003	Editorial change was made to replace UN 3506 by UN 3506 and 3554 and to add gallium.
c) Amended	P006	New entry for paragraph (5) was added.
d) Reformatting	P200, P203, P208, P206, P208, P301, P404, P405, P501, P505 P520, PP95 P600, P601 P602, P603, P800, P803, P804, P901, P902, P903, P904, P907, P908, P909, P910, P911	Editorial changes have been made, including changes to the formatting of the listing in the packing instructions.
e) New packing instructions	P912 P303	New packing instruction that applies to UN numbers 3556, 3557 and 3558 has been added to P912. New packing instruction that applies to UN 3555 has been added to P303.
f) Formatting	IBC02, IBC03, IBC05, IBC06, IBC07, IBC08, IBC100, IBC520	Editorial changes, including changes to the numbering system have been made.
g) Amended	LP02, LP902, LP903, LP904, LP905, LP906	Editorial changes have been made to these packing instructions.
h) Additional entry	LP03	New paragraph (4) has been added.

## Overview of changes between Code editions 7.8 and 7.9

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i) Amended	4.1.6.1.2	Replaced “ISO 11114-1:2012 + A1:2017” by “ISO 11114-1:2020” and “ISO 11114-2:2013” by “ISO 11114-2:2021”.
j) Amended	4.1.6.1.8	Editorial changes were made to paragraphs (b) and (c).
<b>Use of portable tanks and multiple-element gas containers (MEGCs)</b>		
Filling	4.2.3.6.2	Editorial changes were made.
Filling	4.2.3.6.4	Editorial change was made.
Portable tank instructions	4.2.5.2.3	Editorial change was made.
Portable Tank Instructions	4.2.5.2.6 T23	Editorial change was made to replace “2.4.2.3.2.3 and 2.5.3.2.4” by “2.4.2.3.2.3 or 2.5.3.2.4”.
Portable tank special provisions	4.2.5.3	<ul style="list-style-type: none"> <li>• Editorial change was made to TP5;</li> <li>• New portable tank special provision TP42 has been added.</li> </ul>

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

Area	Subsection	Explanation of Change
Application of marking	5.2.1.6.3	Note 2 was deleted.
Lithium or sodium ion battery mark	5.2.1.9 5.2.1.9.1 5.2.1.9.2	Amended to include sodium ion.
Labelling provisions	5.2.2.1.13.1	Amended to include sodium ion batteries
Packages containing a coolant or conditioner	5.5.3.3.1	Amended the reference to Packing instructions.

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

Area	Subsection	Explanation of Change
Marking	6.1.3.1	Editorial change was made and a new Note was added.
Steel drums	6.1.4.1.4	Editorial change was made.
Aluminium drums	6.1.4.2.3	Editorial change was made.
Drums of metal other than steel or aluminium	6.1.4.3.3	Editorial change was made.
Fibreboard boxes	6.1.4.12	New entry was added to read as follows: Fibreboard boxes (including corrugated fibreboard boxes)
Fibreboard boxes	6.1.4.12.1	Amendment was made to replace “ISO 535:1991” by “ISO 535:2014”.
Closed cryogenic receptacles	6.2.1.5.2	A new Note was added for closed cryogenic receptacles.



## Overview of changes between Code editions 7.8 and 7.9

Periodic inspection and test	6.2.1.6.1	An editorial change has been made to paragraph (d). <ul style="list-style-type: none"> <li>replaced “ISO 10461:2005 + A1:2006” by “ISO 10461:2005 + Amd:2006.</li> <li>An additional sentence was added.</li> </ul>
<b>Requirements for UN pressure receptacles</b>		
Design, construction and initial inspection and test – updated date	6.2.2.1.1	Date has been replaced from “Until further notice” to “Until 31 December 2028” for ISO 9809-4:2014.
Design, construction and initial inspection and test – new entry	6.2.2.1.1	A new entry added to ISO 9809-4:2021.
Design, construction and initial inspection and test – updated date	6.2.2.1.1 and 6.2.2.1.2	Date replaced from ‘until further notice’ to ‘until 31 December 2028’ for: <ul style="list-style-type: none"> <li>ISO 11119-1:2012</li> <li>ISO 11119-2:2012</li> <li>ISO 11119-3:2013</li> </ul>
Design, construction and initial inspection and test – new entries	6.2.2.1.1 and 6.2.2.1.2	The following new entries were added: <ul style="list-style-type: none"> <li>ISO 11119-1:2020</li> <li>ISO 11119-2:2020</li> <li>11119-3:2020</li> </ul>
Amended	6.2.2.1.4 6.2.2.1.9 6.2.2.2 6.2.2.3 6.2.2.4	The following standards were updated to current versions: <ul style="list-style-type: none"> <li>ISO 21029-1</li> <li>ISO 11118</li> <li>ISO 11114-1</li> <li>ISO 10297</li> <li>ISO 10461</li> </ul>
New entries	6.2.2.3 6.2.2.4	New entries were added: ISO 23826:2021 ISO 18119:2018 + Amd 1:2021
Updated date	6.2.2.4	Replaced date from ‘Until further notice’ to “Until 31 December 2026” for ISO 18119:2018.
Amended	6.2.2.7.3	Editorial change was made and a new Note added.
Updated ISO number	6.2.2.7.4	Replaced “ISO 11114-1:2012” by “ISO 11114-1:2020” in paragraph (p).
New Note	6.2.2.11	New Note was added.
<b>Chapter 6.5 Requirements for the construction and testing of intermediate bulk containers</b>		
Updated ISO numbers	6.5.5.4.16 6.5.5.5.3 6.6.4.4.1	The following ISO were updated: Replaced “ISO 535:1991” by “ISO 535:2014”. Replaced “ISO 535:1991” by “ISO 535:2014”. Replaced “ISO 535:1991” by “ISO 535:2014”.
Amended	6.6.5.3.2.4	Editorial change was made.
Amended	6.7.4.15.1	Replaced “Degree of filling” by “Maximum allowable mass of gas filled” in (i) (iv).

## Overview of changes between Code editions 7.8 and 7.9

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		Replaced “Degree of filling” by “Maximum allowable mass of gas filled” in figure 6.7.4.15.1.
Updated ISO number	6.7.5.2.4	In (a), replace “ISO 11114-1:2012 + A1:2017” by “ISO 11114-1:2020” and replace “ISO 11114-2:2013” by “ISO 11114-2:2021”.
Deletion of Class	6.9.2.2.3.14.1	Deleted “of Class 3”.