

Australian Code for the Transport of Dangerous Goods by Road & Rail: key changes 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 substantive changes from edition 7.6 of the Code along with a high level overview of the drivers for the change and expected impacts.

GENERAL - Throughout

- Inclusion of UN 21 amendments.
- Extensive minor amendments aimed at correcting typographical and administrative errors that have developed over past editions.
- Update of references, definitions, etc., as relevant

LIMITED QUANTITIES – Chapter 3.4 and Table 5.3

Problem

Australia has for many years been harmonised with the UN land transport for dangerous goods packed in limited quantities (LQ) in all aspects except for documentation and vehicle placarding. This has resulted in a compliance burden that is seen by many duty holders as disproportionate to the risk. Over the past two revisions of the Code, attempts have been made to ease the burden through the introduction of a number of sub categories of LQ. This has resulted in a very complex and confusing set of compliance requirements with many duty holders unable to understand the requirements. The costs associated with the transport of LQ when coupled with the complexity of the current requirements is believed to have led to an increase in the prevalence of hidden (undeclared) dangerous goods in transport.

The proposed changes in edition 7.7 of the Code will make the requirements for the transport of LQ dangerous goods in Australia consistent with accepted overseas practice with minor differences aimed at addressing risks that are unique to the Australian transport environment (e.g. the use of higher capacity vehicles) and addressing concerns raised by some stakeholders regarding commercial quantities of a single UN number being transported as an LQ load.

New provisions

The requirements for dangerous goods packed in limited quantities have been substantially simplified and aligned with those in the International Agreement for the Transport of Dangerous Goods by Road (ADR) which has been adopted by many countries, including Europe, the U.K. and the U.S. The key changes include:

- Removal of all LQ sub-categories, including CLQ, Mixed Packet (Lower Risk) Dangerous Goods and Personal Care Products in Consumer Packaging
- DG Transport Document no longer required for dangerous goods that meet Chapter 3.4.
- Prior to transport, the consignor to inform the prime contractor in a traceable form:
 - the total gross mass of limited quantities/domestic consumables to be consigned; and

- if the goods to be consigned include an aggregate quantity of 2000 kg(L) or greater of any one UN Number, the UN number, proper shipping name and total aggregate quantity for that UN number.
- Two applicable placarding thresholds for LQ/DC, depending on the makeup of the limited quantities/domestic consumables load

Table 5.3: Placard Load (Minimum Quantities) (A placard load is defined in 1.2.1.1)	
Dangerous Goods in Cargo Transport Unit	Placard Load Quantity

Table 5.3.2 – Dangerous goods transported under Chapter 3.4	
Dangerous goods packed in limited quantities and/or domestic consumable dangerous goods.	
Note: these placarding thresholds are separate to and in addition to the above placarding thresholds. In practice, this may mean a single vehicle is required to be placarded with both a placard for the fully regulated DG in the load and an LQ placard.	
(e) Limited quantities dangerous goods and / or domestic consumable dangerous goods (defined as 1.2.1) - See Note 5	The load includes limited quantities dangerous goods and/or domestic consumable dangerous goods, from a single consignor, where the aggregate quantity of any one UN number is $\geq 2,000\text{kg(L)}$
(f) Limited quantities dangerous goods and / or domestic consumable dangerous goods (defined as 1.2.1) to which (e) does not apply. See Note 5	≥ 8 tonnes Gross Mass

Where a load contains both non-LQ DG and LQ, the following placarding rules apply:

1. If the quantity of non-LQ in the load exceeds the relevant threshold, standard placarding is required; and
2. If the quantity of LQ in the load exceeds the relevant placarding threshold, the vehicle must be placarded with an LQ placard
3. If the load contains non-LQ and LQ and is not required to be placarded under 1 and/or 2, the combined quantity must be calculated using a combination of the aggregate quantity of the non-LQ and 10% or 25% of the gross weight of the LQ, depending on the non-LQ in the load. The resulting figure must then be assessed against the placarding threshold applicable to the non-LQ in the load.

The 10% and 25% of the LQ gross mass (referred to in 3 above) have been chosen based on a sliding level of risk, e.g. the more non-LQ in the load, the less LQ permitted before placarding required, the less non-LQ in the load, the more LQ permitted. The percentages have also been chosen to make calculating the quantity as simple as possible.

An assessment of the impact of the amended requirements is shown in appendix 1.

The NTC will work with regulators to develop a guidance document for duty holders on meeting the revised LQ requirements.

TRANSPORT OF AUTOMOTIVE BATTERIES

Special Provision AU08 has been simplified and amended to allow the acid volume to be used when calculating the aggregate quantity of dangerous goods in the load. Where the acid volume isn't known, a nominal figure of 25% of the gross weight of the battery may be used.

Packing Instruction 801 has been amended in line with amendments adopted in UN 21

ADDITIONAL REQUIREMENTS FOR INNER PACKAGINGS FILLED IN AUSTRALIA

6.1.4.21 - Additional requirements for inner packagings filled in Australia has been deleted. A review of the original introduction of the additional Australian specific requirements and current UN requirements showed that the Australian specific requirements were now redundant and created an unacceptable inconsistency that provided an advantage to overseas manufacturers.

UN construction, performance testing and approvals apply to all packagings in Australia, regardless of where they are manufactured or filled. These requirements include the need for inner packagings to be tested and approved as part of a combination package and to be manufactured under a quality assurance system. While there are some allowances for inner packaging that are different to those approved as part of the combination package UN approval, this can only be done if strict requirements are met. These requirements are identical to those in the UN Model Regulations.

The NTC will work with regulators and the packaging industry to develop guidance for duty holders on meeting performance based requirements contained in the ADG Code for packagings

CHAPTER 7.2 – TRANSPORT OF EMPTY PACKAGINGS AND CONTAINER

The following sections are covered elsewhere in the Code, so to avoid the potential for confusion, they have been deleted from Chapter 7.2:

- 7.2.5 – Transport of Pre-Labelled packagings, IBCs and Cylinders
- 7.2.6 – Transport of Nominally Empty Receptacles

PART 11 – DOCUMENTATION

Has been restructured and several clauses renumbered to provide a better flow of information and to align with Chapter 5.4 (Documentation) of UN21.

TABLE 12.1: MINIMUM FIRE EXTINGUISHER REQUIREMENTS FOR ROAD VEHICLES TRANSPORTING A PLACARD LOAD OF DANGEROUS GOODS

Two new Notes have been added to Table 12.1 to allow for the (conditional) use of portable fire extinguishers other than dry-powder or to allow the use of onboard suppression systems instead of portable extinguishers.

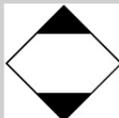
Fire incident data has shown that a large percentage of vehicle trailer fires are initiated by brake or wheel end fires. Dry powder extinguishers have been shown to be ineffective on extinguishing these types of fires as they do not sufficiently reduce the heat or prevent reignition. The vehicle will still be required to carry at least one dry powder extinguisher.

**TABLE 12.2 - MINIMUM PERSONAL PROTECTIVE AND SAFETY EQUIPMENT ON ROAD VEHICLES
TRANSPORTING A PLACARD LOAD**

A performance standard for respiratory PPE has been introduced, requiring certification of compliance to AS/NZS 1716.

Respiratory protection for escape purposes is a vital item of safety equipment to assist a driver in escaping from an incident. The introduction of a mandatory performance standard is expected to ensure equipment functions as intended on demand. It's also anticipated that the mandatory standard will put pressure on suppliers to provide evidence of certification for the equipment they supply.

Topic	Draft amendment	Dangerous Goods Packed in Limited Quantities		Concessional Limited Quantities <i>This sub-category will be removed</i>	Mixed Packet (Low Risk) DG <i>This sub-category will be removed</i>	Personal Care <i>This sub-category will be removed</i>
		Current	Future	Current	Current	Current
Substance permitted	As per column (7a) of UN DG list (ADR) Domestic Consumables# (Australian specific - historical)	Same as proposed	No change	As per column (7a) of ADG Code DG list* Domestic Consumable DG# Must be of a kind generally used for personal care or household purposes (other than UN 2067, UN 2071 and UN 1942)	As per column (7a) of ADG Code DG list* - other than aerosols, dangerous goods that are pool or spa cleaners or a Division 2.3 dangerous good – that are dangerous goods of a kind marketed, labelled, packaged or otherwise clearly intended for use as a household cleaner Must not include aerosols, dangerous goods that are pool or spa cleaners or a Division 2.3 dangerous good – that are dangerous goods	As per column (7a) of ADG Code DG list* Must be a personal care product, i.e. a substance or preparation intended for placement in contact with any external part of the human body, including the mucous membranes of the oral cavity and the teeth, with a view to: • altering the odours of the body; • changing its appearance; • cleansing it; • maintaining it in good condition; • perfuming it; or • protecting it. Must not include aerosols
Container size	Same as ADR As per column (7a)* of UN DG list	Same as proposed	No change	As per column (7a) of ADG Code DG list*	As per column (7a) of ADG Code DG list*	As per column (7a) of ADG Code DG list*
Package size	Same as ADR - packed in an inner package placed inside a suitable outer package (e.g. cardboard box, shrink-wrapped tray) - total gross weight of ≤ 30 kg per package or <20 kg if packed on shrink-wrapped or stretch-wrapped tray - Max 20kg gross mass for inner packagings liable to break or be easily punctured	- Same as proposed expect for allowable gross mass of cartons containing inner packagings liable to break or be easily punctured	Additional restriction of: Max 20kg (currently 30kg) gross mass for inner packagings liable to break or be easily punctured, e.g. glass, porcelain, stoneware or certain plastics, to align with ADR	Same as LQ	Maximum package weight of 10kg of which contents must be at least 50% non-dangerous goods (by volume)	Same as LQ
Packaging requirements	Same as ADR - Outer packaging must: o be strong enough to withstand the shocks and loadings normally encountered during transport and storage operations o be constructed and closed so as to prevent any loss of contents o be clean and in sound condition o protect the inner packages from damage o be constructed of material that cannot interact dangerously with or be adversely affected if the DG leak - inner packagings liable to break or be easily punctured, e.g. glass, porcelain, stoneware or certain plastics must be placed in intermediate packaging - liquids of Class 8, PG II in glass, porcelain or stoneware inner packagings to be enclosed in compatible and rigid intermediate packaging	Same as proposed	No change	Same as LQ No concessions for Domestic Consumables, i.e. must comply as fully regulated		Same as LQ
Documentation	Same as ADR - No DG Transport Document required - Consignor must inform carrier of gross mass of consignment (in a traceable form) - 'contains dangerous goods packed in limited quantities' to be noted on driver's paperwork, e.g. manifest, run-sheet	Same as fully regulated dangerous goods (no concessions)	- No DG Transport Document required. - Gross weight to be provided to carrier in a traceable form 'contains dangerous goods packed in limited quantities' to be noted on driver's paperwork, e.g. manifest, run-sheet	Able to use generic CLQ Transport Document (this document provides summarised information with limited detail)	Consignment note that must include the words "Mixed Packet (Lower Risk) Dangerous Goods – transport by road or rail only"	None required

Topic	Draft amendment	Dangerous Goods Packed in Limited Quantities		Concessional Limited Quantities <i>This sub-category will be removed</i>	Mixed Packet (Low Risk) DG <i>This sub-category will be removed</i>	Personal Care <i>This sub-category will be removed</i>
		Current	Future	Current	Current	Current
Marking & Labelling	<p>Same as ADR</p> <ul style="list-style-type: none"> - No concessions for marking and labelling of inner packages - LQ mark (diamond) required on outer packaging 	Same as proposed	No change	<p>Same as UN</p> 	<ul style="list-style-type: none"> - No concessions for marking and labelling of inner packages - No LQ mark required on outer packaging - Outer package to be labelled with: 'MIXED PACKET (LOWER RISK) DANGEROUS GOODS Road and Rail Transport only 10kg maximum, at least 50% non-dangerous goods (by volume) Warning – household cleaners – take care in event of leakage' 	<ul style="list-style-type: none"> - No concessions for marking and labelling of inner packages - No marking required on outer packaging
Placard threshold [^]	<p>Placarding independent and in addition to placarding for fully regulated DG</p> <p>Placarding required if the load contains: <ul style="list-style-type: none"> ≥ 2000 kg/l (agg qty) of any one UN # from a single place of consignment; or 8 tonnes gross mass <i>(ADR</i> <ul style="list-style-type: none"> - 8 tonnes gross mass - <i>Not included in calculation of total aggregate quantity when transported with fully regulated DG)</i> </p>	<ul style="list-style-type: none"> - If not transported with fully regulated DG, 2000 kg/l (aggregate quantity) - If transported with fully regulated DG, as per threshold for the regulated DG - LQ aggregate quantity included in total load aggregate quantity calculation 	<ul style="list-style-type: none"> - 8 tonnes gross mass - <i>Not included in calculation of total aggregate quantity when transported with fully regulated DG</i> <p>2000kg/l retained for loads that include an aggregate quantity of 2000kg/l for any single UN number</p>	Same as LQ	None	None
Segregation	<ul style="list-style-type: none"> - different dangerous goods may be placed in the same outer packaging provided they will not interact dangerously in the event of a leakage. No other segregation requirements 	Same as proposed	No change	Same as LQ	<ul style="list-style-type: none"> - No food to be placed inside package - No other segregation requirements 	None
Aggregate quantity included in calculation for overall load when transported with fully regulated DG	<p>Yes if both are below their respective placarding threshold. Combine quantity based on full amount of regulated DG plus 10% or 25% of LQ gross, depending on threshold relevant to included regulated DG.</p> <p>Calculation to be shown on driver's paperwork</p> <p><i>(ADR – LQ qty not included in overall calculation when transported with fully regulated DG)</i></p>	Yes in all circumstances	<p><i>Only required when both are below their respective placarding thresholds</i></p>	Yes	No	No

* Column (7a) of the ADG Code is a replication of column (7a) of the UN DG list

[^] Placard loads are not permitted to travel through tunnels. This restriction does not apply to non-placard loads

A Domestic Consumable dangerous goods is defined as: party poppers; sparklers and bon-bons (UN0337), domestic smoke detectors (UN 2911), lighters and lighter refills (UN1057) or portable fire extinguishers with compressed or liquefied gas up to 23kg gross weight) (UN 1044).

General table notes:

- Red font has been used to indicate an increase in requirements for industry
- Green font has been used to indicate a reduction in requirements for industry
- The intent is that should alignment with the UN proceed, i.e. removal of DG transport documentation and placarding threshold changed to 8 tonnes gross (with alternate threshold of 2000kg/l aggregate quantity retained for certain loads), then the sub-categories shaded in grey would be deleted from the ADG Code.