

# Attachment A – Key differences between the Code and ADR

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# Attachment A – Key differences between the Code and ADR

## Introduction

This document provides an overview of the key differences between the Australian Code for the Transport of Dangerous Goods by Road and Rail ADG Code and the Agreement for the International Transport of Dangerous Goods by Road ADR. It is by no means an exhaustive list and does not go to individual differences in any given clause, packing instruction, threshold, etc. This comparison has been developed to support the NTC's Review Principles and Terms of Reference for the comprehensive review of the ADG Code.

## 1 General

Both the ADG Code and the ADR are based on the UN Model Regulations (UN MR) and follow the same basic structure and prescriptive approach. While the ADG and ADR may differ in how they implement the UN MR principles and requirements for transport on road, the fundamentals are the same. A primary difference between the ADG Code and the ADR is the process for maintaining and amending them. The ADR process results in a more cohesive overall framework that works as a whole and assesses and addresses the impact of proposed amendments on the entire framework.

When looked at as an entire system, the ADR can be seen as more stringent than the ADG Code, with a strong focus on prevention. This focus on prevention allows for more proportionate controls to be applied during transport. This results in more relaxed requirements for lower risk loads with greater controls applied to higher risk loads. By way of example, the ADR classifies more loads as lower risk (small loads), exempting them from many requirements but requires prescribed training and certification of all drivers transporting loads above the small load limits.

## 2 Training and driver accreditation (ADG-Ch. 1.3, ADR-Ch. 1.3, 1.8 & 8.2)

Chapter 1.3 in the ADR, and the UN MR, outline the general training requirements for persons engaged in the transport of dangerous goods. These requirements include; general awareness/familiarisation training, function specific training and safety training. The chapter also requires periodic refresher training, records of training to be kept and for training to be verified or provided upon employment. Chapter 1.3 in the ADG Code is marked RESERVED. A general requirement to ensure that any person involved in the transport of dangerous goods has received sufficient training and instruction to enable them to do their tasks safely and compliantly, is contained in the Model Subordinate Instrument (MSI).

The MSI also requires training for drivers of vehicles that transport dangerous goods, in containers with a capacity of more than 500 kg/l, to undertake a two-day approved training course. The participant is issued with a certificate on successful completion of the training. This training certificate is a prerequisite for obtaining or renewing a licence to drive such a vehicle. No approved training is required to be undertaken by drivers of vehicles transporting dangerous goods in containers with a capacity of 500 kg/l or less and such drivers are not required to hold a dangerous goods drivers licence.

At its November 2020 meeting, ITMM supported the NTC's recommendation that a matrix be developed, detailing training requirements for specific tasks – for example, consignor,



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packer, loader, driver – for inclusion in chapter 1.3 of the Code. It was also agreed that the NTC explore the potential for inclusion of a dangerous goods specialist advisory competency in the supply chain training framework – for example, a Dangerous Goods Safety Advisor.

Chapter 8.2 of the ADR requires all drivers of vehicles carrying dangerous goods to hold a certificate issued by the competent authority stating that they have participated in training and passed an examination. The chapter also specifies the structure and minimum content of the training. The training consists of minimum training units to be covered for all drivers and additional specialisation training for drivers of vehicles transporting dangerous goods in tanks, Class 1 or Class 7. The following table outlines the minimum theoretical and practical teaching units for the initial training course. Each teaching unit is intended to go for 45 minutes.

Theoretical	Basic training course	18 teaching units
	specialisation training course for carriage in tanks	12 teaching units
	specialisation training course for carriage of substances and articles of Class 1	8 teaching units
	Specialisation training course for carriage of radioactive material of Class 7	8 teaching units
Practical exercises	Must cover, as a minimum, first aid, fire-fighting and what to do in case of an incident or accident	

**Note:** driver training certification is not required for loads meeting the ‘small loads’ exemption – see section 4.1 below.

Chapter 8.2 of the ADR also specifies requirements relating to refresher training, approval of courses, conduct of examinations, certification of driver’s training and other associated administrative arrangements. All examinations must be invigilated.

In addition to the training specified in chapters 1.3 and 8.2 of the ADR, section 1.8.3 requires all businesses whose activities include consigning, packaging, loading/unloading, filling or transporting dangerous goods to appoint a dangerous goods safety adviser (DGSA).

The DGSA’s role is to help control the risks inherent in such activities with regard to persons, property and the environment. There is no mandatory training for DGSA’s but they must be successful in passing specified exam(s) to gain the qualification. As with driver examinations, DGSA examinations must be invigilated. The qualification must be renewed every five years. The primary duties of a DGSA are:

- Monitoring compliance with the requirements governing the carriage of dangerous goods;
- Advising on the carriage of dangerous goods;
- Preparing an annual report to management or a local public authority, as appropriate, on the undertaking’s activities in the carriage of dangerous goods. Such annual reports must be preserved for five years and made available to the national authorities at their request.



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Businesses with limited exposure to the dangerous goods transport related activities may be exempt from the requirement to formally appoint a DGSA.

## 3 Exemptions

Both the ADR and ADG conditionally exempt the following:

- Loads below specified quantities where the transport is not the primary activity of the duty holder. ADR applies only where the transport is not the primary **or secondary** activity of the duty holder.
- Transport by private individuals of retail packages for their personal or domestic use.
- Tool of trade dangerous goods
- Emergency equipment carried by emergency responders
- Transport of nominally empty static storage vessels (not all Classes). The ADG requires vehicle placarding and transport documentation for these but the ADR doesn't
- Gases (or liquid fuels) contained in:
  - Fuel tanks or cylinders, including the fuel system, of the transporting vehicle. ADR specifies an upper limit on the capacity of the fuel tank or cylinder.
  - Gases contained in the vehicle's equipment or spare parts, e.g. fire extinguisher, inflated tyres
  - Gases contained in special equipment necessary for the operation of the special equipment, e.g. air conditioners, heaters, etc.
- Inflated tyres in the load
- Gases contained in foodstuffs (except UN 1950) including carbonated beverages
- Gases contained in balls for sports.

The ADG Code includes additional exemptions for very small consignments. It's likely that many of these would be captured under the ADR exemption for small loads.

Both the ADG Code and the ADR provide concessions from the requirements for:

- Dangerous goods packed in limited quantities in accordance with Chapter 3.4
- Excepted quantities that comply with Chapter 3.5

Many of the concessions in Chapter 3.4 of the ADG Code also extend to Domestic Consumable Dangerous Goods (DCDG). The definition of DCDG applies to specific items captured in UN 0337, UN 2911, UN 1057 and UN 1044, provided they meet certain conditions. The ADR doesn't include the concept of DCDG. However, DCDG of UN 0337 and UN 2911 are both captured under small loads, UN 1044 are exempt under special provision 594 and UN 1057 can be transported under Chapter 3.4, subject to limitations on the gross mass of the package and per vehicle or large container.

## 4 Exemptions for Non-Placard Loads and Small Loads

Both the ADR and the ADG code provide concessions from several requirements for loads below a specified threshold. In the ADG code this is the 'placard load' threshold. For the ADR, this is known as the 'small loads' threshold.



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The ADG Code adds requirements once placarding thresholds are exceeded. This is generally expressed in the ADG Code by stating that the specific chapter or requirement applies only to a placard load.

Unlike the ADG Code, the ADR starts with all of the requirements as applying to the load and then exempts loads below the 'small loads' thresholds from some of those requirements. The exempted requirements are specified in 1.1.3.6.2.

The application of requirements based on small load or placard thresholds are discussed in greater detail below.

## 4.1 ADR – Small Loads

The ADR assigns each entry in the dangerous goods list to a 'transport category' based on the level of danger they may present in a transport incident. The transport categories range from '0', being the highest level of risk, to '4', being the lowest level of risk. The assigned transport categories are documented in Column 15 of the dangerous goods list.

Transport categories are used to build a general risk profile for a transport load. This risk profile is primarily used when assessing if the load meets the definition of a 'small load'.

Note: Transport categories in the ADR are also used when determining which category, if any, tunnel(s) a vehicle transporting the load is permitted to travel through. Tunnels are categorised based on the type of incidents they are designed / capable of withstanding. This is a complex process and one that is outside the scope of the review. The current prohibitions on dangerous goods through tunnels will not be reviewed as part of the comprehensive review of the ADG Code.

Small load exemptions relate to the total quantity of dangerous goods carried in packages by the "transport unit" (cargo transport unit). The transport category determines the load limits (thresholds).

Small load exemptions do not apply to tankers or bulk carriage.

Load limits for the different transport categories are as follows:

Transport Category	0	1	2	3	4
Threshold	0	20	333	1 000	unlimited

When dangerous goods from different transport categories are transported in the same transport unit, the load is assessed by applying the following formula:

- The total quantity of substances and articles in transport category 1 multiplied by '50' (a factor of '20' is applied to specific identified substances and articles in category 1); and
- The total quantity of substances and articles in transport category 2 multiplied by '3'; and
- The total quantity of substances and articles in transport category 3

The sum of the above must not exceed 1,000.



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If a vehicle is carrying under the small load threshold, many of the requirements of ADR are not applicable. The table below summarises this position. Some care needs to be taken, as "what is not exempted is still required". In most cases the remaining obligations are:

- General training for driver (ADR 1.3.2). A record should be kept (ADR 1.3.3)
- Carry one 2 kg dry powder fire extinguisher or equivalent (ADR 8.1.4.2)
- Stow the dangerous goods properly (ADR 7.5.7)

Taking advantage of the exemptions provided for small loads is optional.

**Table: Exemptions permitted for ‘small loads’**

ADR reference	Requirement that does not apply	Not exempted
5.3	Vehicle placarding and marking	
5.4.3	Instructions in writing (Emergency information)	Other documentary requirements. Consignor's duty to "furnish the carrier with information...." remains (ADR 1.4.2.1.1 (b))
7.2	Special provisions for carriage relating to packages. Depends on substance - see column 16 of the Dangerous Goods list	7.2.4 V5 packages not to be carried in "small containers" V7 ventilation of vehicle V8 Temperature control
7.5.11 CV 1 only	Prohibition of loading/unloading in public place	When carrying explosives All other "CV" special conditions apply to small loads. Note in particular CV9, CV10, and CV36 apply to carriage of gas cylinders
Part 8	Vehicle crews, equipment, documentation, operation Driver training	8.1.2.1 (a) and (c) (documentation) 8.1.4.2 to 8.1.4.5 fire extinguisher for cab (but note transition period in ADR at 1.6.5.6) 8.2.3 General training as set out in Chapter 1.3 8.3.4 prohibition of certain types of lighting apparatus 8.4 Supervision of vehicles (where applicable) 8.5 The following operational notes in column 19 of the Dangerous Goods list S1(3), S1(6), S2(1), S4, S14 to 21 (supervision details)
	Construction and approval of vehicles	



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## 4.2 ADG Code – Placard Loads

As discussed above, the ADG Code uses the placard thresholds as the trigger point at which additional requirements are required for the load.

Placarding thresholds are specified in Table 5.2.3 of the ADG Code as follows (not including LQ):

Dangerous Goods in Cargo Transport Unit		Placard Load Quantity
<b>(a)</b>	Any dangerous goods in a receptacle (other than an article) with a: <ul style="list-style-type: none"> <li>• capacity &gt; 500 L; or</li> <li>• net mass &gt; 500 kg</li> </ul>	One or more such receptacles (i.e. one or more placardable units)
<b>(b)</b>	Any quantity of: <ul style="list-style-type: none"> <li>• Division 2.1 (except Aerosols); or</li> <li>• Division 2.3; or</li> <li>• Packing group I of any Class or Division</li> </ul>	Aggregate quantity of all dangerous goods (other than LQ) in the cargo transport unit $\geq$ 250 kg(L) (see Note 5)
<b>(c)</b>	Division 6.2 Category A	All quantities
<b>(d)</b>	Division 6.2 (other than Category A)	$\geq$ 10 kg(L)
<b>(e)</b>	Loads where (a) – (d) do not apply	Aggregate quantity of dangerous goods (other than LQ $\geq$ 1,000 kg(L) (see Note 5) – unless the load is a Fumigated Unit (UN3359 – see Note 3)

Unlike the ADR multiplication factor used for determining small loads containing dangerous goods from more than one transport category, the lower thresholds in the ADG Code are triggered by the presence of any quantity of the higher risk dangerous goods. The lower threshold is then applied unilaterally to the load.

As an example, a load containing 999 litres of a Class 3, PG II substance would not be a placard load. However, if the load included a single 1 litre container of a Class 3, PG I substance, the load would be a placard load as soon as the aggregate quantity exceeded 250 litres. Whilst it could be argued that a PG 1 flammable liquid would ignite more easily, setting fire to the remainder of the load, in practice the probability of this is very low.

While the need for a simplified and easily understood threshold calculation is recognised, the current thresholds in the ADG Code are not always reflective of the risk. The practice of consolidation and deconsolidation of freight is far more common in Australia than many other





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parts of the world, increasing the need for thresholds that are simple to follow and apply, whilst also being reflective of the overall risk.

Placarding thresholds in the ADG Code are used to trigger the following requirements.

- Fire extinguisher and safety equipment requirements
- Segregation of incompatible substances
- Vehicle placarding
- Specific stowage and load restraint requirements
- Emergency information and Transport Emergency Response Plan
- \$5 million, DG specific insurance

Loads below the relevant placard threshold are not required to comply with the above requirements. While a duty holder may choose to apply these controls to a load that is below the placard threshold, there is some uncertainty as to whether this discretion extends to vehicle placarding.

It's not suggested that the ADG Code move to the use of transport categories as per the ADR. However, a full assessment of the placard thresholds in the ADG Code should be undertaken to ensure an appropriate risk based approach.

## 5 Classification (Part 2)

Both the ADG Code and the ADR apply the classification criteria as per the UN MR. The one notable difference being that the ADR expands the flammability criteria for UN1202 to include GAS OIL, DIESEL FUEL OR HEATING OIL, LIGHT with a flashpoint of more than 60 °C but not more than 100°C.

The other key difference is the communication of the classification hazards, as detailed in section 6.2 of this paper.

The process and criteria for classification follow the same UN MR process but the resulting primary and subsidiary hazards classification are expressed differently. This difference has no real impact on the application of the requirements. All substances must be assigned to a UN Number, Class / Division and Packing Group (if relevant).

In addition to assigning a substance to a Class/Division based on its primary hazard, both the ADG code and UN MR also use the UN Classes and Divisions to assign any subsidiary hazard(s) to the substance. Labels required on a given package are determined according to the assigned primary and subsidiary hazards as shown in columns 3 and 4 of the Dangerous Goods List (DGL).

While the ADR also assigns each substance to a UN Class/Division based on its primary hazard, it does not explicitly use the Class/Division classification to assign any subsidiary hazards. Instead, the ADR uses Classification Codes and Groups to communicate the hazards. The hazard labels required to communicate the primary and any subsidiary hazard(s) are shown in column 5 of DGL. The following table shows a comparison between the ADG code and the ADR for a few DGL entries to demonstrate this approach. A full list of classification codes and groups can be found in Attachment 1.





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Substance	ADG Code (primary & subsidiary risks)	ADR (class & classification code / group)
UN 1950 AEROSOLS	2.1	2 F (flammable)
UN 1418 MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER	4.3 (4.2)	4.3 WS (substances which, in contact with water, emit flammable gases, solid, self-heating)
UN 1305 VINYLTRICHLOROSILANE	3 (8)	3 FC (flammable, corrosive)
UN 2032 NITRIC ACID, RED FUMING	8 (5.1, 6.1)	8 COT (Corrosive, oxidising, toxic)

Retaining the current approach in the ADG Code would not impact the cohesiveness of the overall requirements or framework of the end document. It would however require a careful translation of the threshold table used for distinguishing small loads (placarding thresholds)

The preferable option may be to retain Part 2 of the UN MR as per the current approach for the ADG Code.

## 6 Dangerous Goods List (DGL) (Part 3)

The dangerous goods list (DGL) in the ADR contains additional columns that are not contained in the ADG Code. The specified requirements related to these columns are also not included in the ADG Code. These requirements are specifically related to risks associated with land (road) transport.

To assist in explaining the differences in the DGL and associated requirements, the following information has been broken down by DGL columns. For context, these columns are:

### ADG Code

UN No.	Name and description	Class or division	Subsidiary hazard	UN packing group	Special provisions	Limited and excepted quantities		Packagings and IBCs		Portable tanks and bulk containers	
						(7a)	(7b)	Packing instructions	Special packing provisions	Instructions	Special provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)
-	3.1.2	2.0	2.0	2.0.1.3	3.3	3.4	3.5	4.1.4	4.1.4	4.2.5 / 4.3.2	4.2.5

### ADR (columns span 2 pages)

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers	
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions



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	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4	3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)

ADR tank		Vehicle for tank carriage	Transport category (Tunnel restriction code)	Special provisions for carriage				Hazard identification No.	UN No.	Name and description
Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation			
4.3	4.3.5, 6.8.4	9.1.1.2	1.1.3.6 (8.6)	7.2.4	7.3.3	7.5.11	8.5	5.3.2.3		3.1.2
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)

## 6.1 DGL - UN Number and Name and Description

ADG = Columns 1 and 2 (section 3.1.2)

ADR = Columns 1 and 2 (section 3.1.2)

The content of these columns is for the most part identical. The exceptions being that the ADR breaks some UN Numbers into multiple entries to better distinguish the associated hazards. The differences generally fall into the following categories:

1. Entries where the ADR specifies additional hazard labels. Some of the additional label requirements may also be required in the ADG Code but this requirement is shown through the use of a special provision.
2. Entries where the ADR adds additional text to the Proper Shipping Name or provides additional variations for the UN Number. This is generally done to assign different special provisions to each variation, aimed at more appropriately addressing the hazards associated with different substances within a single UN Number.
3. Entries that are not subject to regulation for transport by land, whether conditionally or unconditionally. The ADG Code uses special provisions to communicate this information.
4. Entries that are prohibited for transport under the ADR.

The following tables identify the difference between the ADG Code and the ADR, broken down by the above four categories.

**Table 1:** entries where the ADR specifies additional hazard labels. Note: unlike the ADG Code that assigns a primary and subsidiary hazard Class/Division to a UN number, which is then used to determine the hazard labels required, the ADR uses hazard codes to show the primary and subsidiary hazards. Hazard labels required are specified in Column 5 of the ADR. These differences will be discussed further in the Classification section of this paper.

UN No.	Name and Description (ADG) (assigned primary and subsidiary hazards – columns 3 & 4)	Name and Description (ADR) (Labels – column 5)
0015	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge



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UN No.	Name and Description (ADG) (assigned primary and subsidiary hazards – columns 3 & 4)	Name and Description (ADR) (Labels – column 5)
	(1)	(1)
		AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances (1+8)
		AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing toxic by inhalation substances (1+6.1)
0016	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge (1)	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge (1)
		AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances (1+8)
		AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing toxic by inhalation substances (1+6.1)
0303	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge (1.4)	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge (1.4)
		AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances (1.4+8)
		AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing toxic by inhalation substances (1.4+6.1)
1613	HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION) with not more than 20% hydrogen cyanide (6.1)	HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION) with not more than 20% hydrogen cyanide (6.1+3)
1614	HYDROGEN CYANIDE, STABILISED, containing less than 3% water and absorbed in a porous inert material (6.1)	HYDROGEN CYANIDE, STABILISED, containing less than 3% water and absorbed in a porous inert material (6.1+3)
1872	LEAD DIOXIDE (5.1)	LEAD DIOXIDE (5.1+6.1)
1950	AEROSOLS	AEROSOLS, asphyxiant (2.2)
		AEROSOLS, corrosive (2.2+8)
		AEROSOLS, corrosive, oxidizing (2.2+ 5.1+8)
		AEROSOLS, flammable (2.1)
		AEROSOLS, flammable, corrosive (2.1+8)
		AEROSOLS, oxidizing (2.2+5.1)
		AEROSOLS, toxic



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UN No.	Name and Description (ADG) (assigned primary and subsidiary hazards – columns 3 & 4)	Name and Description (ADR) (Labels – column 5)
		(2.2+6.1) AEROSOLS, toxic, corrosive (2.2+6.1+8) AEROSOLS, toxic, flammable (2.1+6.1) AEROSOLS, toxic, flammable, corrosive (2.1+6.1+8) AEROSOLS, toxic, oxidizing (2.2+5.1+6.1) AEROSOLS, toxic, oxidizing, corrosive (2.2+5.1+6.1+8)
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.2) RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.1) RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.2+5.1) RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.3) RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.3+8) RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.3+2.1) RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.3+2.1+8) RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.3+5.1) RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable (2.3+5.1+8)
2211	POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour (9)	POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour (None)
3314	PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour (9)	PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour (None)
3101	ORGANIC PEROXIDE TYPE B, LIQUID (5.2)	ORGANIC PEROXIDE TYPE B, LIQUID (5.2+1)
3102	ORGANIC PEROXIDE TYPE B, SOLID (5.2)	ORGANIC PEROXIDE TYPE B, SOLID (5.2+1)
3111	ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED (5.2)	ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED (5.2+1)
3112	ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED	ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED



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UN No.	Name and Description (ADG) (assigned primary and subsidiary hazards – columns 3 & 4)	Name and Description (ADR) (Labels – column 5)
	(5.2)	(5.2+1)
3221	SELF-REACTIVE LIQUID TYPE B (4.1)	SELF-REACTIVE LIQUID TYPE B (4.1+1)
3222	SELF-REACTIVE SOLID TYPE B (4.1)	SELF-REACTIVE SOLID TYPE B (4.1+1)
3231	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED (4.1)	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED (4.1+1)
3232	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED (4.1)	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED (4.1+1)
3369	SODIUM DINITRO- <i>o</i> -CRESOLATE, WETTED, with not less than 10% water by mass (4.1)	SODIUM DINITRO- <i>o</i> -CRESOLATE, WETTED, with not less than 10% water by mass (4.1+6.1)

**Table 2:** Entries where the ADR adds additional text to the Proper Shipping Name or adds additional variations. This is generally associated with the assigning of different special provisions aimed at more appropriately addressing the hazards associated with different substances within a single UN Number. Special provisions are discussed in further detail in the Special Provisions section of this paper.

UN #	ADG – Proper Shipping Name	ADR – Proper Shipping Name
1012	BUTYLENE	BUTYLENES MIXTURE or 1-BUTYLENE or cis-2-BUTYLENE or trans-2-BUTYLENE
1040	ETHYLENE OXIDE, or ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50°C	ETHYLENE OXIDE
		ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50°C
1060	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILISED	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED such as mixture P1 or mixture P2
1078	REFRIGERANT GAS, N.O.S.	REFRIGERANT GAS, N.O.S., such as mixture F1, mixture F2 or mixture F3
1133 (PGII)	ADHESIVES containing flammable liquid	ADHESIVES containing flammable liquid (vapour pressure at 50 °C more than 110 kPa)
		ADHESIVES containing flammable liquid (vapour pressure at 50 °C not more than 110 kPa)
1133 (PGIII)	ADHESIVES containing flammable liquid	ADHESIVES containing flammable liquid
		ADHESIVES containing flammable liquid (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		ADHESIVES containing flammable liquid (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1139 (PGII)	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (vapour pressure at 50 °C not more than 110 kPa)



# Attachment A – Key differences between the Code and ADR

UN #	ADG – Proper Shipping Name	ADR – Proper Shipping Name
		COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (vapour pressure at 50 °C not more than 110 kPa)
1139 (PGIII)	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)
		COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1170 (PGIII)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
1202	GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT	GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point not more than 60 °C)
		DIESEL FUEL complying with standard EN 590:2013 + A1:2017 or GAS OIL or HEATING OIL, LIGHT with a flash-point as specified in EN 590:2013 + A1:2017
		GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point more than 60 °C and not more than 100 °C)
1210 (PGII)	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (vapour pressure at 50 °C more than 110 kPa)
		PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (vapour pressure at 50 °C not more than 110 kPa)
1210 (PGIII)	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable
		PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1224 (PGII)	KETONES, LIQUID, N.O.S.	KETONES, LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)
		KETONES, LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)





# Attachment A – Key differences between the Code and ADR

UN #	ADG – Proper Shipping Name	ADR – Proper Shipping Name
1263 (PGII)	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (vapour pressure at 50 °C more than 110 kPa)
		PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (vapour pressure at 50 °C not more than 110 kPa)
1263 (PGIII)	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
		PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1266 (PGII)	PERFUMERY PRODUCTS with flammable solvents	PERFUMERY PRODUCTS with flammable solvents (vapour pressure at 50 °C more than 110 kPa)
		PERFUMERY PRODUCTS with flammable solvents (vapour pressure at 50 °C not more than 110 kPa)
1266 (PGIII)	PERFUMERY PRODUCTS with flammable solvents	PERFUMERY PRODUCTS with flammable solvents
		PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1267 (PGII)	PETROLEUM CRUDE OIL	PETROLEUM CRUDE OIL (vapour pressure at 50 °C more than 110 kPa)
		PETROLEUM CRUDE OIL (vapour pressure at 50 °C not more than 110 kPa)
1268 (PGII)	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)
		PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)
1270	PETROLEUM FUEL [AUST.] <b>This UN number has been discontinued internationally.</b>	
1286 (PGII)	ROSIN OIL	ROSIN OIL (vapour pressure at 50 °C more than 110 kPa)
		ROSIN OIL (vapour pressure at 50 °C not more than 110 kPa)



# Attachment A – Key differences between the Code and ADR

UN #	ADG – Proper Shipping Name	ADR – Proper Shipping Name
1286 (PGIII)	ROSIN OIL	ROSIN OIL
		ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1287 (PGII)	RUBBER SOLUTION	RUBBER SOLUTION (vapour pressure at 50 °C more than 110 kPa)
		RUBBER SOLUTION (vapour pressure at 50 °C not more than 110 kPa)
1287 (PGIII)	RUBBER SOLUTION	RUBBER SOLUTION
		RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1306 (PGII)	WOOD PRESERVATIVES, LIQUID	WOOD PRESERVATIVES, LIQUID (vapour pressure at 50 °C more than 110 kPa)
		WOOD PRESERVATIVES, LIQUID (vapour pressure at 50 °C not more than 110 kPa)
1306 (PGIII)	WOOD PRESERVATIVES, LIQUID	WOOD PRESERVATIVES, LIQUID
		WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1308 (PGII)	ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID	ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID (vapour pressure at 50 °C more than 110 kPa)
		ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID (vapour pressure at 50 °C not more than 110 kPa)
1326	HAFNIUM POWDER, WETTED with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	HAFNIUM POWDER, WETTED with not less than 25% water The additional information in the ADG Code is contained ADR SP 586
1345	RUBBER SCRAP or RUBBER SHODDY, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45%	RUBBER SCRAP or RUBBER SHODDY, powdered or granulated
1352	TITANIUM POWDER, WETTED with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced particle size less than 840 microns	TITANIUM POWDER, WETTED with not less than 25% water The additional information in the ADG Code is contained ADR SP 586
1358	ZIRCONIUM POWDER, WETTED with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced particle size less than 840 microns	ZIRCONIUM POWDER, WETTED with not less than 25% water The additional information in the ADG Code is contained ADR SP 586
1381	PHOSPHORUS, WHITE or YELLOW, DRY or UNDER WATER or IN SOLUTION	PHOSPHORUS, WHITE or YELLOW, UNDER WATER or IN SOLUTION



# Attachment A – Key differences between the Code and ADR

UN #	ADG – Proper Shipping Name	ADR – Proper Shipping Name
		PHOSPHORUS, WHITE or YELLOW, DRY
1790 (PGI)	HYDROFLUORIC ACID, with more than 60% hydrogen fluoride	HYDROFLUORIC ACID with more than 85% hydrogen fluoride
		HYDROFLUORIC ACID with more than 60% but not more than 85% hydrogen fluoride
1863 (PGII)	FUEL, AVIATION, TURBINE ENGINE	FUEL, AVIATION, TURBINE ENGINE (vapour pressure at 50 °C more than 110 kPa)
		FUEL, AVIATION, TURBINE ENGINE (vapour pressure at 50 °C not more than 110 kPa)
1866 (PGII)	RESIN SOLUTION, flammable	RESIN SOLUTION, flammable (vapour pressure at 50 °C more than 110 kPa)
		RESIN SOLUTION, flammable (vapour pressure at 50 °C not more than 110 kPa)
1866 (PGIII)	RESIN SOLUTION, flammable	RESIN SOLUTION, flammable
		RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. such as mixtures A, A01, A02, A0, A1, B1, B2, B or C
1987 (PGII)	ALCOHOLS, N.O.S.	ALCOHOLS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)
		ALCOHOLS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)
1989 (PGII)	ALDEHYDES, N.O.S.	ALDEHYDES, N.O.S. (vapour pressure at 50 °C more than 110 kPa)
		ALDEHYDES, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)
1993 (PGII)	FLAMMABLE LIQUID, N.O.S.	FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)
		FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)
1993 (PGIII)	FLAMMABLE LIQUID, N.O.S.	FLAMMABLE LIQUID, N.O.S.
		FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)
1999 (PGII)	TARS, LIQUID, including road oils, and cutback bitumens	TARS, LIQUID, including road oils, and cutback bitumens (vapour pressure at 50 °C more than 110 kPa)
		TARS, LIQUID, including road oils, and cutback bitumens (vapour pressure at 50 °C not more than 110 kPa)
1999 (PGIII)	TARS, LIQUID, including road oils, and cutback bitumens	TARS, LIQUID, including road oils, and cutback bitumens
		TARS, LIQUID, including road oils, and cutback bitumens (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa)
		TARS, LIQUID, including road oils, and cutback bitumens (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)



# Attachment A – Key differences between the Code and ADR

UN #	ADG – Proper Shipping Name	ADR – Proper Shipping Name
2015	HYDROGEN PEROXIDE, STABILISED or HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILISED with more than 60% hydrogen peroxide	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 70% hydrogen peroxide
		HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 60% hydrogen peroxide and not more than 70% hydrogen peroxide
2059 (PGII)	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose (vapour pressure at 50 °C more than 110 kPa)
		NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose (vapour pressure at 50 °C not more than 110 kPa)
2426	AMMONIUM NITRATE, LIQUID (hot concentrated solution)	AMMONIUM NITRATE, LIQUID, hot concentrated solution, in a concentration of more than 80% but not more than 93%
2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS	INFECTIOUS SUBSTANCE, AFFECTING HUMANS
		INFECTIOUS SUBSTANCE, AFFECTING HUMANS, in refrigerated liquid nitrogen (6.2 + 2.2)
		INFECTIOUS SUBSTANCE, AFFECTING HUMANS (animal material only)
2900	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only
		INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only, in refrigerated liquid nitrogen (6.2 + 2.2)
		INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only (animal material only)
3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.	SOLIDS or mixtures of solids (such as preparations and wastes) CONTAINING FLAMMABLE LIQUID, N.O.S. having a flash-point up to 60 °C
3245	GENETICALLY MODIFIED MICROORGANISMS, or GENETICALLY MODIFIED ORGANISMS	GENETICALLY MODIFIED MICROORGANISMS, or GENETICALLY MODIFIED ORGANISMS
		GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS, in refrigerated liquid nitrogen (9 + 2.2)
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash point above 60°C, at or above its flash point	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flashpoint above 60° C, at or above its flashpoint and below 100° C
		ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flashpoint above 60° C, at or above its flashpoint and at or above 100° C
3257	ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100°C and below its flash point (including molten metals, molten salts, etc.)	ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.), filled at a temperature higher than 190 °C
		ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.), filled at or below 190 °C
3291	CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.	CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.
		CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S., in refrigerated liquid nitrogen (6.2 + 2.2)



# Attachment A – Key differences between the Code and ADR

UN #	ADG – Proper Shipping Name	ADR – Proper Shipping Name
3295 (PGII)	HYDROCARBONS, LIQUID, N.O.S.	HYDROCARBONS, LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)
		HYDROCARBONS, LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)
3336 (PGII)	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S. (vapour pressure at 50 °C more than 110 kPa)
		MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)
3337	REFRIGERANT GAS R 404A	REFRIGERANT GAS R 404A (Pentafluoroethane, 1,1,1-trifluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane)
3338	REFRIGERANT GAS R 407A	REFRIGERANT GAS R 407A (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane)
3339	REFRIGERANT GAS R 407B	REFRIGERANT GAS R 407B (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane)
3340	REFRIGERANT GAS R 407C	REFRIGERANT GAS R 407C (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23% difluoromethane and 25% pentafluoroethane)
3373	BIOLOGICAL SUBSTANCE, CATEGORY B	BIOLOGICAL SUBSTANCE, CATEGORY B
		BIOLOGICAL SUBSTANCE, CATEGORY B (animal material only)
3375	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, liquid
		AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, solid

**Table 3:** Entries marked in the ADR as ‘NOT SUBJECT TO THE ADR’. The majority of these are not subject to the ADG Code but that information is provided in a special provision.

1327	HAY, STRAW or BHUSA	Hay, Straw or Bhusa
1372	FIBRES, ANIMAL or FIBRES, VEGETABLE burnt, wet or damp.	Fibres, animal or fibres, vegetable burnt, wet or damp
1387	WOOL WASTE, WET	Wool waste, wet
1845	CARBON DIOXIDE, SOLID (DRY ICE)	Carbon dioxide, solid (Dry ice) (NOT SUBJECT TO ADR except for 5.5.3)
1856	RAGS, OILY	Rags, oily
1857	TEXTILE WASTE, WET	Textile waste, wet
1910	CALCIUM OXIDE	Calcium oxide
2216	FISH MEAL (FISH SCRAP), STABILISED	Fish meal (Fish scrap), stabilized
2807	MAGNETISED MATERIAL	Magnetized material
2812	SODIUM ALUMINATE, SOLID	Sodium aluminate, solid
3334	AVIATION REGULATED LIQUID, N.O.S.	Aviation regulated liquid, n.o.s.
3335	AVIATION REGULATED SOLID, N.O.S.	Aviation regulated solid, n.o.s.
3360	FIBRES, VEGETABLE, DRY	Fibres, vegetable, dry





# Attachment A – Key differences between the Code and ADR

3496	BATTERIES, NICKEL-METAL HYDRIDE	Batteries, nickel-metal hydride
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Table 4: entries marked in the ADR as 'CARRIAGE PROHIBITED'

0020 (1.2K)	AMMUNITION, TOXIC with burster, expelling charge or propelling charge	AMMUNITION, TOXIC with burster, expelling charge or propelling charge
0021 (1.3K)	AMMUNITION, TOXIC with burster, expelling charge or propelling charge	AMMUNITION, TOXIC with burster, expelling charge or propelling charge
1798	NITROHYDROCHLORIC ACID	NITROHYDROCHLORIC ACID
2186	HYDROGEN CHLORIDE, REFRIGERATED LIQUID	HYDROGEN CHLORIDE, REFRIGERATED LIQUID
2249	DICHLORODIMETHYL ETHER, SYMMETRICAL	DICHLORODIMETHYL ETHER, SYMMETRICAL
2421	NITROGEN TRIOXIDE	NITROGEN TRIOXIDE
2455	METHYL NITRITE	METHYL NITRITE
3097	FLAMMABLE SOLID, OXIDISING, N.O.S.	FLAMMABLE SOLID, OXIDISING, N.O.S.
3100	OXIDISING SOLID, SELF-HEATING, N.O.S.	OXIDISING SOLID, SELF-HEATING, N.O.S.
3121	OXIDISING SOLID, WATER-REACTIVE, N.O.S.	OXIDISING SOLID, WATER-REACTIVE, N.O.S.
3127	SELF-HEATING SOLID, OXIDISING, N.O.S.	SELF-HEATING SOLID, OXIDISING, N.O.S.
3133	WATER-REACTIVE SOLID, OXIDISING, N.O.S.	WATER-REACTIVE SOLID, OXIDISING, N.O.S.
3137	OXIDISING SOLID, FLAMMABLE, N.O.S.	OXIDISING SOLID, FLAMMABLE, N.O.S.
3255	tert-BUTYL HYPOCHLORITE	tert-BUTYL HYPOCHLORITE

## 6.2 DGL – Classification

ADG = Column 3 – Class or Division (section 2.0), column 4 – Subsidiary Hazard (section 2.0) and column 5 – Packing Group (section 2.0.1.3).

ADR = Column 3a – Class (section 2.2), column 3b – Classification Code (section 2.2), column 4 – Packing Group (section 2.0.1.3) and column 5 – labels (section 5.2.2)

See also Section 4 – Classification (Part 2)

With the exception of some specific entries as discussed above, there is no difference to the classification of entries in the ADR and those in the ADG Code. The manner in which the classifications are expressed is different, as discussed in section 5 of this paper

While there is no suggestion that the current system for expressing the primary and subsidiary risks in the ADG Code be replaced by the ADR Classification Codes, it's worth considering adding the ADR Classification Codes to the ADG Code as an additional column. Once duty holders understand the classification codes, they are likely to appreciate the additional information they provide.

Both the ADG Code and ADR assign packing groups in accordance with the UN MR. There are no obvious differences between the packing groups assigned to entries in the ADG Code and those in the ADR.

Column 5 of the ADR provides details on the hazard labels required for each specific UN entry. These are same as the hazard labels required by the ADG Code, either in columns 3 and 4 or through a special provision assigned to the entry.





# Attachment A – Key differences between the Code and ADR

## 6.3 DGL – Special Provisions

ADG = Column 6 (section 3.3)

ADR = Column 6 (section 3.3)

Both the ADG Code and the ADR assign special provisions (SP) in accordance with the UN MR. In some instances, rather than list the special provision in column 6, the ADR applies it to the entry. In other instances, where a specific special provision is not referenced, it's assumed that this is because it's considered to be unnecessary.

Specific examples include:

Special Provision	Comments
<i>SP 223 If the chemical or physical properties of a substance covered by this description are such that when tested it does not meet the established defining criteria for the Class or division listed in column (3), or any other Class or division, it is not subject to this Code.</i>	This SP does not appear to add any value and is not used in the ADR  Similar SP include SP 29
<i>SP 106 Not subject to this Code. Dangerous Goods only when transported by air</i>	The ADG Code includes information in each column of the DGL for entries that are only considered DG when transported by air, and then assigns SP 106 to them. The ADR simply marks these entries in the DGL as NOT SUBJECT TO THE ADR.  Similar SP include SP 117 and SP 123

As the UN MR are not tailored to any specific mode of transport, the SP are assigned unilaterally without consideration of risks specific to the given transport mode. To address this, the bodies that manage each mode specific Code (IMDG, ICAO TI, ADR, RID and ADN) have developed their own additional special provisions. The ADR includes approximately 140 additional SP, commencing at SP 500. In some instances, the ADR SP guides the duty holder to the correct classification for similarly named substances. In other instances, the ADR SP requires additional, or reduced, controls based on the risks associated with land transport of the substance.

Special provisions in the ADG Code are assigned strictly as per the UN MR, with the exception of seven unique AU special provisions. There are no added special provisions specific to the land mode transport of dangerous goods.

Naturally, the ADR does not include the seven unique AU special provisions. However, in some instances, a similar outcome to what the AU special provision seeks to achieve would be achieved by following the requirements of the ADR .

## 6.4 DGL – Limited and Excepted Quantities

ADG = Column 7a (section 3.4) and Column 7b (section 3.5)



# Attachment A – Key differences between the Code and ADR

ADR = Column 7a (section 3.4) and Column 7b (section 3.5.1.2)

Both the ADG Code and the ADR replicate the provisions and quantities as specified in the UN MR. Both include additional provisions relating to vehicle placarding when transporting large quantities of dangerous goods packed in limited quantities (LQ). The recent changes in the ADG Code have aligned, as far as possible, with the thresholds in the ADR. There are distinct differences in the way vehicles transporting LQ dangerous goods are placarded. This is common across all vehicle placards, as discussed further in section 7. To cater for the practice of consolidated loads that include both regulated and LQ dangerous goods, which is considerably more common in Australia, the ADG Code includes additional provisions relating to the provision, and availability, of information on the gross mass of LQ. This information is necessary to enable consolidators to assess the total LQ in the load against the placarding threshold.

As a compromise during the amendments to the LQ provisions in ADG 7.7, the ADG Code also includes a lower placarding threshold for LQ loads that include more than 2000 l/kg of any one UN number. Such loads also require information including the UN number, Proper Shipping Name and aggregate quantity for the UN number to be readily ascertainable during transport.

## 6.5 DGL – Packaging Instructions and Special Packaging Provisions

ADG = Columns 8 and 9 (section 4.1.4)

ADR = Columns 8 and 9a (section 4.1.4) and 9b (section 4.1.10)

Columns 8 & 9 of the ADG Code replicate columns 8 and 9 from the UN MR. These columns are also replicated in the ADR as columns 8 and 9a, with some minor differences. These differences generally fall into the following categories:

- Several Class 1 UN Numbers – the UN MR and ADG Code allow P110(a) or P110(b) but the ADR only allows P110(b)
- UN numbers that the ADR has further broken down to differentiate the hazards (see Table 2 in section 5.1) – in many instances, not all packing instructions permitted for the original entry are permitted for the variations, e.g. an IBC packing instruction may be specified for the original entry but not for the variations.
- UN Numbers that the ADR lists as prohibited for carriage or as not subject to the ADR (see Tables 3 and 4 in section 5.1) – no packing instructions are provided for these UN numbers.
- R001 – The ADR includes an additional packing instruction (R001) specific to the ADR. R001 is assigned to approximately 400 entries in the DGL.



# Attachment A – Key differences between the Code and ADR

R001	PACKING INSTRUCTION			R001
The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:				
Light gauge metal packagings	Maximum capacity/maximum net mass			
	Packing group I	Packing group II	Packing group III	
steel, non-removable head (0A1)	Not allowed	40 l / 50 kg	40 l / 50 kg	
steel, removable head (0A2) <sup>a</sup>	Not allowed	40 l / 50 kg	40 l / 50 kg	
<sup>a</sup> Not allowed for UN No. 1261 NITROMETHANE.				
<b>NOTE 1:</b> This instruction applies to solids and liquids (provided the design type is tested and marked appropriately).				
<b>NOTE 2:</b> For Class 3, packing group II, these packagings may be used only for substances with no subsidiary hazard and a vapour pressure of not more than 110 kPa at 50 °C and for slightly toxic pesticides.				

- Special packaging provisions (SPP) – in addition to the PP designated SPP assigned to packing instructions as per the UN MR, the ADR also includes 9 ADR specific SPP, designated RR, that apply only to land transport. One or more of these SPP are included in P001, P002, P003, P207, P401, P402, P403 and P601.
- Similarly, the ADR includes 4 additional special packing provisions for IBCs, designated BB, and one additional SPP for Large Packagings, designated LL.
- The ADG code assigns B1 or B2 to several entries in the DGL, requiring specific types of IBCs to be transported in closed cargo transport. The ADR does not use B1 or B2, instead using ‘special provisions for carriage’ to assign this requirement. Note: ‘special provisions for carriage’ are discussed in section 6.7.

To fully understand the implications of these variations in the assignment of SPP to individual UN entries, it will be necessary to undertake a full comparison between the ADR and ADG Code.

A full comparison of the content of individual packing instructions in the ADR against the UN MR will also be necessary to identify any differences. While these are anticipated to be minimal, one identified difference is in P200. P200 in both the UN MR and the ADG Code include a column headed ‘MEGCs’. This column is used to identify gases that are authorised for transport in MEGCs. The ADR does not include this column, instead using an (M) in column 10 of the DGL to indicate this information.

The ADR dangerous goods list includes an additional column under Packaging, column **9b Mixed packing provisions**. The entries in this column refer to the special provisions for mixed packing, contained in 4.1.10. These provisions provide specific instructions for when and how different dangerous goods or dangerous goods and other goods may be packed together in a combination packaging. They also specify where such mixed packing is prohibited. In general, 4.1.10.3 permits dangerous goods of the same class and same classification code to be packed together in a combination packaging, unless otherwise prescribed by a mixed packing provision. The following examples show the application of the mixed packing provisions



# Attachment A – Key differences between the Code and ADR

The provisions are qualified by ‘provided that they do not *react dangerously with one another* and that all other relevant provisions of this Chapter are complied with’. This must be read in conjunction with 4.1.1.6 which states:

*Dangerous goods must not be packed together or in large packagings, with dangerous or other goods if they react dangerously with each other and cause:*

- (a) Combustion and/or evolution of considerable heat;*
- (b) Evolution of flammable, toxic or asphyxiant gases;*
- (c) The formation of corrosive substances; or*
- (d) The formation of unstable substances*

The ADG code provides no guidance on mixed packaging, other than the general provision in 4.1.1.6 which replicates the wording in 4.1.1.6 of the ADR

The detailed requirements for the construction and testing of packagings, including large packagings and IBCs are specified in Chapters 6.1 – 6.7 in both the ADR and the ADG Code. With the exception of some specific regional requirements, the construction and testing requirements in these chapters in both the ADR and the ADG Code faithfully replicate the requirements from the UN MR.



# Attachment A – Key differences between the Code and ADR

## 6.6 DGL – Portable Tanks and Bulk Containers

ADG = Column 10 (section 4.2.5 & 4.3.2) and Column 11 (section 4.2.5)

ADR = Column 10 (section 4.2.5.2 & 7.3.2) and Column 11 (section 4.2.5.3)

For the most part, both the ADG code and the ADR replicate the UN MR when assigning portable tank instructions, associated special provisions and permitted bulk containers, to the entries in the dangerous goods list. There are two notable exceptions to this, as follows:

1. The ADR uses the code (M) in column 10 to indicate gases that are authorised for transport in MEGCs. The ADG Code identifies gases authorised for transport in MEGCs via a column in Packing instruction P200.
2. The ADR assigns TP 13 to around 320 entries in the DGL, to specify that a self-contained (oxygen supplied) breathing apparatus must be provided when transporting these substances. This requirement is more stringent than the emergency escape mask that is a general requirement under the ADR when transporting loads, other than small loads, containing dangerous goods of division 2.3 or 6.1. This appears to be a considerably more risk-based approach than the ADG Code, which requires an oxygen supplied respirator to be carried when transporting a placard load containing any dangerous goods of Division 2.3, Division 6.1 or Class 8.

As with the packaging provisions in Part 4 (see section 6.5), Part 6 of both the ADR and the ADG code provide the construction and testing requirements for tanks and bulk containers. Chapter 6.7 Requirements for the Design, Construction, Inspection and Testing of Portable Tanks and Multiple-element Gas Containers (MEGCs) in both the ADR and the ADG Code closely replicate the requirements in the UN MR.

Note: definitions applicable to various tank types, including tank vehicles, in the ADR are different to those in the ADG Code. As a starting point to understanding the tank related provisions, the NTC has prepared a comparison of tanks and vehicle related definitions. A copy is included as Attachment 3.

## 6.7 DGL – ADR only columns

The DGL in the ADR includes several additional columns that are not included in the ADG Code DGL. While the columns, and associated sections of the ADR are not included in the ADG Code, the ADG Code does include some equivalent requirements. Further detailed comparison of mode specific requirements in the ADR vs those in the ADG Code will be required before the similarities and differences can be identified and understood.

The requirements specified in the ADR specific columns are related primarily to land transport. While some of these provisions, e.g., those pertaining to ADR tanks, may not be relevant to Australia, aligning with or adopting many of the other provisions would assist in retaining the overall cohesiveness of the Code as well potentially better safety outcomes. It would also assist in ensuring the requirements of the ADG Code are regularly updated and current by enabling Australia to take advantage of the ADR update process (WP.15). Where possible, the review should also strive to align as closely as possible with the ADR requirements relating to vehicles. Such alignment would assist in the import of vehicles manufactured overseas without the need for modifications



# Attachment A – Key differences between the Code and ADR

ADR specific columns are briefly discussed below.

## 6.7.1 DGL – ADR Tanks

ADR = Column 12 – Tank code (chapter 4.3) and column 13 – Special provisions (section 4.3.5 and 6.8.4)

ADG = No specific equivalent

The tank codes and special provisions outline the requirements for the use of tank vehicles, demountable tanks, tank containers and tank swap bodies with shells made of metallic materials, and battery-vehicles and non-UN MEGCs. These requirements are different to those for portable tanks. Chapters 4.3 and 6.8 of the ADR are mode specific and are in addition to the requirements in the UN MR.

Chapter 4.3 specifies requirements for the Use of Fixed Tanks (Tank-Vehicles), Demountable Tanks, Tank-Containers and Tank Swap Bodies with Shells Made of Metallic Materials, and Battery-Vehicles and Multiple-Element Gas Containers (MEGCs). This is distinctly different from the ADG Code which applies the instructions and special provisions for portable tanks to tank-vehicles, demountable tanks, etc. Any variation from the requirements for portable tanks for a particular tank-vehicle would be specified in the design approval for the tank-vehicle. Some of the requirements specified in Chapter 4.3 of the ADR may be captured in the unique Australian provisions in the ADG Code, e.g. Parts 10 and 13. A more detailed comparison is required to identify the differences and similarities.

Chapter 6.8 of the ADR specifies the requirements for the Construction, Equipment, Type Approval, Inspections and Tests, and Marking of Fixed Tanks (Tank-Vehicles), Demountable Tanks and Tank-Containers and Tank Swap Bodies, with Shells Made of Metallic Materials, and Battery-Vehicles and Multiple-Element Gas Containers (MEGCs). Chapter 6.8 (and 4.3) clearly distinguishes between the requirements applicable to fixed tanks (tank-vehicles), demountable tanks and battery-vehicles and those applicable to tank-containers, tank swap bodies and MEGCs. Some of the requirements applicable to tank-vehicles may be similar to those in Chapter 6.9 of the ADG Code.

## 6.7.2 DGL – Vehicle for Tank Carriage

ADR = Column 14 – Vehicle for tank carriage (section 9.1.1.2)

ADG = No equivalent (partially covered by design requirements for tank vehicles)

Column 14 of the ADR specifies the explosion protection rating requirements for vehicles transporting dangerous goods in tanks. These requirements apply to vehicles transporting tanks of any type. Similar protection ratings in the ADG Code apply only when specified in AS 2809 for tank vehicles. The ADG Code contains no such requirements for non-tank vehicles, e.g. a vehicle transporting a portable tank.

## 6.7.3 DGL – Transport Category (Tunnel Restriction Code)

ADR = Column 15 – transport category (section 1.1.3.6) and tunnel restriction code (chapter 8.6)

ADG = No equivalent

These are discussed in section 4.1 of this paper, ADR – Small Loads





# Attachment A – Key differences between the Code and ADR

## 6.7.4 DGL – Special Provisions for Carriage

ADR = Column 16 – packages (section 7.2.4), column 17 – bulk (section 7.3.3), column 18 – loading, unloading and handling (section 7.5.11) and column 19 – operation (section 8.5)

ADG = No equivalent

The special provisions contained in columns 16, 17, 18 and 19 of the ADR are an area of significant difference between the ADR and the ADG Code. These provisions are risk based and aimed at controlling both general and specific risks associated with the carriage, loading, unloading and handling of dangerous goods. While the ADG Code does include some requirements similar to some of these special provisions, they are scattered in various areas of the ADG Code. Incorporating these columns and associated requirements in to the ADG Code has the potential to provide significant safety benefits.

The following provides a brief overview of the special provisions.

*Column (16) "Special provisions for carriage - Packages"*, contains the alphanumeric code(s), starting with letter "V", of the applicable special provisions (if any) for carriage in packages. The special provisions are listed in 7.2.4 and are in addition to the general provisions concerning the carriage in packages contained in Chapters 7.1 and 7.2.

V1 Packages shall be loaded on to closed or sheeted vehicles or into closed or sheeted containers.

V2 (1) Packages shall only be loaded on to EX/II or EX/III vehicles which satisfy the relevant requirements of Part 9. The choice of vehicle depends on the quantity to be carried, which is limited per transport unit in accordance with the provisions concerning loading (see 7.5.5.2). Where a transport unit consists of an EX/II vehicle and an EX/III vehicle, both carrying explosive substances or articles, the quantity limit of 7.5.5.2.1 applicable for an EX/II transport unit applies for the entire transport unit.

(2) Trailers, except semi-trailers, which satisfy the requirements for EX/II or EX/III vehicles may be drawn by motor vehicles which do not satisfy those requirements.

For carriage in containers, see also 7.1.3 to 7.1.6.

Where substances or articles of Class 1 in quantities requiring a transport unit made up of EX/III vehicle(s) are being carried in containers to or from harbour areas, rail terminals or airports of arrival or departure as part of a multimodal journey, a transport unit made up of EX/II vehicle(s) may be used instead, provided that the containers being carried comply with the appropriate requirements of the IMDG Code, the RID or the ICAO Technical Instructions.

V3 For free-flowing powdery substances and for fireworks the floor of a container shall have a non-metallic surface or covering.

V4 *(Reserved)*

V5 Packages may not be carried in small containers.

V6 Flexible IBCs shall be carried in closed vehicles or in closed containers, in sheeted vehicles or in sheeted containers. The sheet shall be of an impermeable and non-combustible material.



# Attachment A – Key differences between the Code and ADR

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V7 (Reserved)

V8 See 7.1.7.

**NOTE:** This special provision V8 does not apply to substances referred to in 3.1.2.6 when substances are stabilized by the addition of chemical inhibitors such that the SADT is greater than 50 °C. In this case, temperature control may be required under conditions of carriage where the temperature may exceed 55 °C.

V9 (Reserved)

V10 IBCs shall be carried in closed or sheeted vehicles or closed or sheeted containers.

V11 IBCs other than metal or rigid plastics IBCs shall be carried in closed or sheeted vehicles or closed or sheeted containers.

V12 IBCs of type 31HZ2 (31HA2, 31HB2, 31HN2, 31HD2 and 31HH2) shall be carried in closed vehicles or containers.

V13 When packed in 5H1, 5L1 or 5 M1 bags, shall be carried in closed vehicles or containers.

V14 Aerosols carried for the purposes of reprocessing or disposal under special provision 327 in Chapter 3.3 shall only be carried in ventilated or open vehicles or containers.

**NOTE:** In addition, special provisions indicated in Column (18), concerning loading, unloading and handling, shall be observed.

*Column (17) "Special provisions for carriage - Bulk"* contains the alphanumeric code(s), starting with letters "VC", as well as the alphanumeric code(s) starting with letters "AP", of the applicable provisions for carriage in bulk. These are listed in 7.3.3. If no special provision, identified by the code "VC" or a reference to a specific paragraph, explicitly authorizing this mode of carriage is indicated in this column, and no special provision, identified by the code "BK" or a reference to a specific paragraph, explicitly authorizing this mode of carriage is indicated in column (10), carriage in bulk is not permitted. General and additional provisions concerning carriage in bulk are to be found in Chapters 7.1 and 7.3.

**NOTE:** In addition, special provisions indicated in Column (18), concerning loading, unloading and handling, shall be observed.

*Column (18) "Special provisions for carriage – Loading, unloading and handling"* contains the alphanumeric code(s), starting with letters "CV", of the applicable special provisions for loading, unloading and handling. These are listed in 7.5.11. If no code is given, only the general provisions apply (see 7.5.1 to 7.5.10).

*Column (19) "Special provisions for carriage - Operation"* contains the alphanumeric code(s), starting with letter "S", of the applicable special provisions for operation which are listed in Chapter 8.5. These provisions shall be applied in addition to the requirements of Chapters 8.1 to 8.4 but in the event of conflict with the requirements of Chapters 8.1 to 8.4, the special provisions shall take precedence.



# Attachment A – Key differences between the Code and ADR

## 7 Marking, labelling and placarding (Part 5)

For the most part, the requirements for marking and labelling of packages containing dangerous goods, in both the ADR and the ADG Code, closely replicate the requirements in the UN MR with some minor variations. For example, while the ADG Code replicates the UN MR requirement for the Proper Shipping Name to be marked on packages, the ADR requires this only for Class 1 and Class 2. Additionally, the requirement in the ADG Code to include the name and Australian contact details for the consignor or their representative, is an Australian addition. This requirement is not included in either the UN MR or the ADR. The omission of this in the UN MR and ADR may be because such requirements are generally included in a country's legislation covering the supply of chemicals. As the UN MR is non mode specific, it does not specify placarding and marking requirements for road vehicles.

Attachment 2 contains a comparison of the marking, labelling and placarding requirements in the ADR and the ADG Code for different applications. The comparison relates to general requirements and does not consider the many exceptions included in each code. This topic is complex and requires a detailed and comprehensive comparison and analysis to fully understand the differences.

In considering which concepts in the ADR could be suitable for inclusion in the ADG Code, the focus should be on the triggers for when placarding and emergency information is required on individual packagings and / or vehicle types, rather than on the look or content of the placards or emergency information. There is no suggestion that Australia consider adopting the use of 'orange plates' or Hazard Identification Numbers (HIN). Maintaining the current look of placards and Emergency Information Panels (EIP) in the ADG Code would have no adverse impact on the cohesiveness of the related requirements or triggers. As an example, the UK is a contracting party to the ADR but has in place a derogation that replaces the use of ADR type placards and HINs, with an emergency placard that is similar in style to the ADG Code emergency information panel and the use of emergency action codes (Hazchem). The derogation applies only to transport wholly within the UK. EU vehicles travelling in or through the UK can continue to use ADR style placards.

One difference in placarding under ADR vs the ADG Code that does warrant consideration is the placarding of multicompartment tanks transporting dangerous goods of more than one UN number. Under the ADG Code, the entire load is placarded as UN 1270 PETROLEUM FUEL. The use of UN 1270 has been discontinued in the UN MR and is now used only in Australia. Under the ADR, each compartment of a multicompartment vehicle transporting more than one UN number is individually placarded with the appropriate information for that compartment.

### 7.1 Emergency information

The most contentious issue is likely to be the point at which emergency information (EAC/HIN, UN#, etc.) is required to be included as part of marking, labelling and placarding. For the most part, both the ADR and ADG Code clearly delineate between the requirements for packaged dangerous goods and those for Tanks, MEGCs, Bulk Containers, etc., with requirements relating to emergency information only applicable for the later. However, while the ADR, and most of the rest of the world, treats IBCs as packaged dangerous goods for the purposes of marking and labelling, the ADG Code treats them in the same manner as tanks. This has a flow on effect to the placarding of vehicles transporting IBCs. Given that



# Attachment A – Key differences between the Code and ADR

this issue has been ongoing since ADG 6, finding a resolution as part of the ADG Code review must be a priority.

## 7.2 Placardable Unit

The unique Australian concept of ‘placardable unit’ also appears to be the cause of unnecessary and confusing variation from both the UN MR and the ADR. In addition to being the source of the requirement for emergency information on IBCs, the definition of ‘placardable unit’ is itself a source of confusion and contradictions throughout the ADG Code. The following proposed amendments to the definition in ADG 7.8 are designed to resolve some of the identified issues. (Note: proposed amendments are shown in strikethrough for deleted text and underlined for new text):

*any ~~large receptacle or other large item~~ such as an IBC, pressure drum, tube, MEGC or ~~demountable~~ portable tank that individually has a capacity of more than 500 kg(l).*

**Note:** *the definition of receptacle does not include articles, ~~other than:~~*

- (a) ~~A cargo transport unit: or~~*
- (b) ~~Large packaging meeting the requirements of Chapter 6.6: or~~*
- (c) ~~An overpack used in accordance with Section 5.1.2: or~~*
- (d) ~~A segregation device meeting the requirements of Chapter 6.11.~~*

A separate paper will be prepared on the topic of ‘placardable units’ and the associated requirements.

## 8 Transport document, emergency information and safety equipment (ADG – Parts 11 & 12), (ADR – Ch. 5.4 & 8.1)

The comparison in this section concentrates on the primary requirements applicable to all loads, unless otherwise exempted. It does not include comparison or discussion on additional items that may be required for some loads, e.g. container packing certificates, copy of any applicable exemption, etc.

### 8.1 Dangerous goods transport document and emergency information

Chapter 11.1 of the ADG Code specifies the content and form of the DG Transport Document that must be carried when transporting dangerous goods. The contents of chapter 11.1 replicate the requirements in chapter 5.4 of the UN MR, with little or no variation. Like the UN MR, the ADR requirements for the DG transport document are set out in chapter 5.4. These requirements are, in some cases, expressed differently to the UN MR. However, the actual requirements appear to either replicate or closely align with the UN MR. There are some minor variations to cater for matters specific to the ADR. For example, the ADR requires any applicable tunnel restriction codes to be included on the transport document.

Section 5.4.3 of the UN MR provides a general requirement for emergency information to be available during the transport of dangerous goods. While it also includes examples of how this could be achieved, it provides very little direction. Given the non-modal nature of the UN MR, this is appropriate. Both the ADR and the ADG rewrite the requirements of 5.4.3 to specify what is required when transporting dangerous goods in accordance with the



# Attachment A – Key differences between the Code and ADR

particular Code. The ADR retains this information in 5.4.3, whereas the ADG Code relocates it to Chapter 11.2.

The ADG Code requires emergency information, in the form of either the emergency response guidebook or individual emergency procedures guides, to be carried on the vehicle. If individual emergency procedure guides are carried, a copy of the emergency procedure guide for vehicle fire is also required. The emergency procedure guides are tailored to individual dangerous goods, or groups of dangerous goods with similar properties. The guides have been developed for first responders and contain information on the actions to be taken when responding to different types of emergencies involving the dangerous goods. This information may or may not be appropriate for vehicle drivers who have not received specific emergency response training.

The ADR requires that a copy of 'Instructions in Writing' be provided to the driver and carried in the vehicle. The instructions in writing set out the emergency actions to be performed by the driver/crew, dangerous goods hazard characteristics, additional guidance and a list of the general and personal equipment to be carried on a vehicle. The instructions in writing are applicable to all dangerous goods and are available in over 20 languages.

For comparison, a copy of the Instructions in Writing is provided in Attachment 4.

Note: the emergency information carried on a vehicle is in addition to any EAC or HIN required on vehicle placards.

When determining what emergency information should be carried on the vehicle, the reviewer should consider the role of the driver in the event of an emergency or incident and ensure the information is appropriate for their role.

## 8.2 PPE and safety equipment

In general, the UN MR does not contain requirements or guidance on PPE or safety equipment that should be carried when transporting dangerous goods. Appropriately, each of the mode specific codes specifies the safety equipment relevant to that transport mode.

A list of required safety equipment is contained in table 12.2 of the ADG Code and in section 8.1.5 of the ADR. In both instances, the requirements relate to Classes and/or Divisions of dangerous goods being transported. As discussed in section 6.6 above, the ADR specifies additional requirements to some specific UN numbers, in column 10 of the DGL.

In addition to the notable difference in requirements relating to escape respirators (see 6.6), the ADR requires that a shovel, drain seal and collecting container be carried when transporting Class/Division 3, 4.1, 4.3, 8 or 9 dangerous goods. This equipment is to assist the driver in preventing or mitigating environmental contamination.

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Attachment 1: ADR Hazard Classification Codes and Groups



D-21-0126864 ADR  
Hazard Classification

Attachment 2: Comparison of marking, labelling and placarding



# Attachment A – Key differences between the Code and ADR

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D-21-0128450  
Comparison of markir

Attachment 3: Comparison of tank and vehicle related definitions



D-21-0127142  
Comparison of Tank e

Attachment 4: ADR Instructions in Writing



ADR Instructions in  
Writing.pdf

